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Mr Mackay
1840 - 41.

Mackay (George) M.D.?



Motto
Labor ipse prodedit

Essay
On Dysentery

Particularly as it occurs
Among Troops serving
In the East and West Indies

and in

Temperate Climates.



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Introduction

The subject of the present paper has attracted a large share of the attention of medical writers both ancient and modern, and is one of the greatest importance both on account of its prevalence and fatality, particularly to those who are likely to be engaged in the medical practice of fleets or armies. For as Dr Masley remarks "the page of military history weeps less for the slain in battle, than for those who have fallen victims to this calamity." But it is unnecessary to expatiate on the importance of a disease, which has been long known as the scourge of fleets, and of armies especially during the season of encampment.

The word Dysentery is of Greek origin and in that language signifies a general disorder of the bowels. In this sense it was employed by Hippocrates who classed under it all affections of the bowels of

Introduction

whatever kind. Jelsus mentions this disease under the name of *Termina* and *Colicus Auriliarius* as *Rheumatismus Intestinalium cum Ulcere*. It has also received other denominations, as *colitis* (*colite*) by some French writers, and *Flux* or *Bloody Flux* from the appearance or absence of blood in the evacuations.

Among the earliest attempts which we possess of a division of this disease, will be found that of Galen, who made four varieties, and since his time various facts regarding its forms and treatment have been added to our knowledge by the writings of many distinguished authors of modern times, as well as by the accounts of numerous epidemics that have occurred.

Although this country is by no means exempt from dysentery, yet it does not occur to such an extent as to afford an adequate idea of its prevalence and fatality in tropical climates, to which it most particularly belongs. And it is the opinion of many that the disease as it appears in the latter is different from that described by European authors. Sir George Ballingall and Sir James Macgregor are both of this opinion. The latter states that the Tropical dysentery that proved so fatal to the troops under his inspection differs considerably from the dysentery of Scotland, and ought rather to belong to the form of disease which

he has elapsed with diarrhoea. While on the other hand Dr Johnson, (when speaking of the opinion of Mr Curtis on this subject) says, "but had Mr Curtis extended his researches to Bombay, Bengal, China and other parts of the East, where atmospherical vicissitudes are much greater than at Madras, and where hot days are often succeeded by cold, raw nights he would have seen the disease answering to every iota of Fullen's definition, saving the 'pyrexia contagiosa', which, *pace tanti viri*, exists only in the imagination." Sir J King remarks that all the epidemic dysenteries which he met with in the army were of the same nature, and that Dr Keuss and others assured him that in Germany, Minorca America, and the West Indies which differ so much in climate, this disease appeared with the same symptoms, (though varying in violence according to the heat) and yielded to the same treatment.

He also adds "that both in Scotland and in this country whenever I had an opportunity of treating such fluxes in my private practice, I never could see that they required any different method of cure!"²

¹ Influence of Tropical Climates page 364

² Diseases of the Army, Vol 4th page 223

The dysentery of this country may be defined Inflammation of the mucous membrane of the intestines particularly of the large intestine, *Sarmina* and *Tenismus*, scanty and frequent mucous and bloody dejections, with little or no discharge of fecal matters, and generally accompanied with some degree of fever.

It is evident however that this will not refer to the disease as it is observed in tropical climates, and indeed, it is impossible to comprehend in any definition the different forms of dysentery. Most of our systematic authors seem to consider febrile symptoms as generally accompanying this disease. And in the nosological arrangement of Dr. Fuller it is placed in the class pyrexia.

While Sir George Ballingall states that the "dysentery of India often makes considerable progress, and has very seriously, perhaps irreparably injured the intestinal canal, before any urgent symptoms of pyrexia become either distressing to the patient, or conspicuous to the Medical Attendant." Hardy in his "Observations on the Simple Dysentery and its combinations;" and Sewar in his Account

of this disease as it appeared in the British Army during the Egyptian Campaign, both discuss at some length the impropriety of dysentery being arranged in the class pyrexia.

With regard to this Mr Annesley remarks that "in those who have resided for a considerable time in India, and who are of a spare habit of body and phlogistic temperament, the state of the pulse of the skin and tongue, often indicate but little constitutional disturbance early in the disease. while in young plethoric and more recent comers, febrile symptoms are nearly coeval with the first appearance of the dysenteric affection of the bowels."¹

In respect to the circumstances under which dysentery may occur, it may be either sporadic epidemic or endemic, and much difference of opinion exists as to its being contagious, but of this we shall say more hereafter.

Most authors agree as to the division of dysentery into two species, Acute and Chronic, and this nearly corresponds with the Colonic and Hepatic flux of Sir George Ballingall. But many have again subdivided these into different varia-

¹ See into the Causes, Nat and Treat of Dis of India &c Vol II p 160

is; it is not our intention however to follow the example of the latter, as we conceive it can lead to no practical advantage, particularly if the divisions are founded on the degree of inflammation as they admit of no precise line of demarcation by which one set of cases can be distinguished from another, but only tend to render the subject more obscure, and as Dr Johnson remarks "upon the whole, I greatly doubt whether such minuteness of diagnosis is often possible, or if it be, whether it be of any avail in actual practice." And the former method is that which is adopted by some of our most distinguished practical authors.

The order in which we shall treat of this subject is as follows. - We shall in the first place detail the symptoms and progress of acute uncomplicated dysentery as it occurs in tropical countries, after which we shall mention the difference that exists between it and the dysentery of temperate climates. The chronic form of the disease will next claim our attention, after the consideration of which we shall notice the complications which arise from the coexistence of dysentery with other maladies.

In the next place we shall mention the organic changes to which the symptoms already described are owing, and which morbid anatomy reveals. We shall then endeavour to trace the causes of dysentery, and after giving a few statistical details from different countries, we shall conclude by mentioning the different methods that have been proposed for the cure of this formidable disease.

Part First

Description of The Disease

Chapter I

Acute uncomplicated Dysentery

Section I

Dysentery of India

In describing the symptoms of acute uncomplicated Dysentery, it is necessary to keep in mind the varying degrees of intensity which it is apt to assume.

This form of the disease is often preceded by symptoms of common diarrhoea, in other cases by constipation, and in some instances the dysenteric symptoms appear from the first.

There is griping and a sense of increased action in the course of the colon, an altered action takes place in the secreting vessels, serum, mucus, lymph and blood are thrown out by them, these unnaturally stimulate the muscular coat of the intestine and produce that

most characteristic symptom tenesmus, causing a desire to go to stool, where the patient will sometimes sit for hours straining.

The evacuations are at first but little initiated, and considerable variety is observed as to their number and quantity; they are copious of a fluid consistence intermixed with blood which Dr. Muskhin observes "never thoroughly combines with the slime or mucus so as to produce a uniform colour," but as Sydenham remarks, "appears distinctly or in streaks," blood is also sometimes discharged in small quantities without any mixture of fecal matters.

In mild cases there are not more than nine or ten evacuations in the twenty four hours, but in more severe cases particularly if there is great inflammatory action, they occur as often as four in the hour. But we cannot depend on this alone, as marking the intensity of the disease, for Dr. Liberembie states that, "the calls to stool are sometimes very frequent occurring perhaps every ten or fifteen minutes with much painful tenesmus, but in other cases the disease may be going on in the most alarming manner, while the bowels are not moved above four or five times a day."²

1. Climate & Diseases of Tropical Countries. p. 54 2. Diseases of the Stomach &c. p. 237

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The evacuations are at first but little vitiated, and considerable variety is observed as to their number and quantity; they are copious of a fluid consistence intermixed with blood which Dr. Huskisson observes "never thoroughly combines with the slime or mucus so as to produce a uniform colour," but as Sydenham remarks, "appears distinctly or in streaks," blood is also sometimes discharged in small quantities without any mixture of fecal matters.

In mild cases there are not more than nine or ten evacuations in the twenty four hours, but in more severe cases particularly if there is great inflammatory action, they occur as often as four in the hour. But we cannot depend on this alone, as marking the intensity of the disease, for Dr. Mercier states that, "the calls to stool are sometimes very frequent occurring perhaps every ten or fifteen minutes with much painful tenesmus, but in other cases the disease may be going on in the most alarming manner, while the bowels are not moved above four or five times a day."²

1. Climate & Diseases of Tropical Countries p. 54 2. Diseases of the Stomach &c p. 237

Acute, Uncomplicated Dysentery of India

It is remarked by several India practitioners, and particularly by Mr Bramfield, that they are more frequent during the night and especially towards morning.

Considerable difference of opinion exists among authors, as to the presence in the evacuations of scybala, or those small indurated balls into which the feces become converted. Although they are described by many as being present in dysentery as it occurs in this country yet they are not universally so, nor are they constantly absent in the dysentery of tropical climates. Among those authors who describe them as of rare occurrence in tropical dysentery, we may mention Sir George Ballingall, Mr Bramfield, Dr Johnson, and Sir James Macgregor who states that in 500 cases he does not think that scybala were discharged in six of them! On the other hand Dr Thielmann speaks of them as an ordinary symptom, and Mr Annestey states with regard to them, that "solid feces or scybala are seldom observed in the dysentery of India, although they sometimes occur," which he conceives is owing to the liquefaction of the retained feces, by the vici-ous fluid exhaled from the irritated and inflamed

1. Edin. Med. and Surg. Journal Vol. I p. 280 — 2. Rec. into the Causes Nat. & Treat. of Dis. of India by

Acute Uncomplicated Dysentery of India

surface with which they are in contact, the accumulated matters being thus washed away by the copious discharge proceeding from the diseased canals, and squeezed in the liquid form through the spasmodically constricted canal. Dr Mason good while he seems to consider them as of rare occurrence in any climate, explains their production, from the spasmodic constriction which so often takes place through a considerable extent of the intestine.

The pain experienced varies considerably, and after the evacuation the patient is often much relieved.

In the first stage of the disease the tongue and fauces are but little changed, the heat of skin is not much increased nor is the pulse accelerated, the appetite is lessened, and the thirst augmented, there is depression of spirits, and considerable prostration of strength. The patient is affected with nausea, which is sometimes accompanied with vomiting. These symptoms may be owing to an inverted action taking place in the duodenum, bile being thus conveyed into the stomach and ejected by the vomiting. In some cases the mildest articles of food or drink are rejected without any bile, in others the action of vomiting occurs when nothing is discharged, this appears to be owing to a morbid condition of the stomach itself, or its sympathy with the diseased state of some other abdominal viscus.

Acute Uncomplicated Dysentery of India

As the disease proceeds a change takes place in the evacuations they become more frequent and scanty, composed of mucus and blood, or they may be still more watery, having the appearance of dirty water tinged with blood or like the washings of flesh, they acquire an offensive odour, and in fatal cases become perfectly unbearable.

The smell is so peculiar, that an experienced person can distinguish it to be dysenteric on entering the room.

The tenesmus increases and it is often difficult to persuade the patient to leave the close stool.

In the advanced and sometimes in the early part of the disease the urine is passed frequently, has a high colour and is attended with scalding, owing also to the vicinity of the chief seat of disease, it is frequently suppressed, from which the patient suffers much uneasiness. Pain is now felt in the hypogastrium and if the region of the caecum be examined by pressing upon it in opposite directions the patient will generally complain of pain, which may often be traced to the descending colon and sigmoid flexure. The tongue which in all affections of the mucous membrane of the intestines is deserving of the greatest attention, is loaded and florid or it may have become dry hard and glazed, and as the close of the disease approaches aphthae are frequently observed in the interior of the mouth, and sometimes extending along the pharynx. There is loss of taste or a perversion of it, so that all kinds

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of food appear to have a nauseous or disagreeable flavour.

The appetite is lost and the thirst becomes more urgent, if all liquids cold water is preferred, every thing taken to allay the thirst produces tormina and a desire of evacuation, as if it passed rapidly through the bowels.

The skin is hot harsh and dry particularly over the abdomen, or it may be covered with a copious perspiration.

With regard to the pulse it may be stated that we cannot place much reliance on it as indicating the extent of the disease. In some cases it will be found that even yet it is not much affected, in others it is quick and bounding, and as the disease advances and the extremities become cold, it feels more quiet and thready. There is a peculiar state of the pulse, namely, that in which without much increase in velocity it is full and bounding, and communicates a peculiar thrilling sensation to the fingers, which Sir George Ballingall states indicates extreme danger, and points out that the disease is rapidly passing on to the final stage.

In some cases where the patient retains any degree of appetite the articles of food are now evacuated undigested, the emaciation becomes very great, and as the disease advances relaxation of the sphincter ani takes place, the stools are passed involuntarily mixed with membranous shreds, and not infrequently with purulent matter, the bowel becomes protruded, and the patient emits an insupportable

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odour. Portions of the mucous membrane have been discharged in the evacuations, and even after this, recovery is said in some cases to have taken place. But when the disease has proceeded so far, the pulse generally sinks, hiccup and vomiting are distressing, the countenance is sunken, delirium comes on, and death shortly closes the dismal scene.

It might, says Sir J. Huxley, "be of use to know what gut is particularly affected, when the gripes are severe. But this we can hardly ascertain, considering how much the intestines are liable to change their place by the peristaltic motion, how their situation may vary in different persons, and how easily the pain in the colon may be confounded with that of the smaller guts, which are surrounded by it." This statement is no doubt so far correct, yet there are certain symptoms, which will often enable us to determine this point with some degree of certainty.

If there is much constitutional disturbance, the mucous membrane of the small and large intestines may be affected to a considerable degree, and yet the symptoms by which it is marked may not be very evident.

But in general if the feeling of heat in the course of the colon is wanting, if pain is not complained of on pressing over the region of the caecum and sigmoid flexure of the colon, if the abdomen is not tense or tender, nor the

1 Observations on the Dis. of the Army 7th ed. p. 232

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Sarminia excipine, although the tenesmus is severe and there are frequent calls to stool, the disease may be considered as chiefly seated in the rectum, but it sometimes happens that there is little or no tenesmus, and the other symptoms are distinctly marked, in such cases the higher portions of the canal may be considered as the chief seat of the disease. For Mr Annesley says that he has often seen extensive ulceration of the caecum and colon when the patient during life did not complain of tenesmus the rectum having been comparatively free from disease (which occurred in the case of Thomas Dean related by him) and he considers that symptom as merely characteristic of disease of the rectum, although frequently an attendant on dysentery, for he has also observed it to a disappearing degree, when after death the colon throughout its whole extent was found little disordered, and the disease confined to the rectum.

In those cases where the patient comes early under treatment, and when the disease originates in the caecum, denoted by diarrhoea with fulness of the abdomen, and soreness in its vicinity, for some days before the characteristic stools and straining appear, the affection may often be traced along the large intestine to the rectum. and when as occasionally happens tenesmus precedes the full

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development of the disease we may trace its progress in the opposite direction.

When there is much fulness of the abdomen with pain and tenderness to the touch, which occurs chiefly in the last stage the inflammatory action will be found to have extended to the peritonæum covering the bowels and adhesions often take place between it and the surrounding parts.

It has been observed by some authors, that the absence of pain should not lead us to infer, that inflammatory action is not going on, for it sometimes happens that the patient complains of little or none, or uneasiness, even upon pressure, and yet the appearances observed after death on the inner surface of the intestines are as extensive as in those in which great pain is complained of.

The blood which is evacuated does not necessarily proceed from an ulcerated surface, as is most distinctly shown in a case mentioned by Dr. Cheyne in which blood was discharged by stool, and on examination after death, the whole mucous membrane of the intestines was found in a highly vascular condition without ulceration or erosion.

In cases of this kind the blood generally appears in the stools in the form of streaks. When it is indistinctly mixed

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with the other matters composing the evacuations and consists of dark grumous clots it probably proceeds from the upper part of the colon or from the caecum, but when fluid in large quantity and distinct from the other matters discharged, it flows from the lower part of the intestine.

When milk was taken, it has been evacuated in some cases in the form of curd causing great pain, on coming in contact with the diseased portions of the intestines.

Dr Murray remarks that vomiting is often present when the duo-coecal valve is much diseased, which, he continues, "does not appear to have attracted the attention it merits, for I do not find it alluded to in any author." On giving an emetic to relieve the stomach when overloaded, the patient has sometimes felt the original taste of the substances in succession which he had taken for some days previously, showing a total loss of the function of digestion.

The exudations of coagulable lymph which are thrown out from the inflamed surface of the intestine, and afterwards detached from it, may present a membranous appearance, but they can generally be distinguished from the portions of the mucous membrane by the sloughy appearance of the latter, the character and putrid smell of the discharges which accompany them, and from the former commonly occurring at an earlier period of the disease, the latter being discharged in the advanced stages of severe cases owing

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to the inflammation extending to the other coats, detaching the mucous membrane from the subjacent tissue.

Portions of this membrane are sometimes observed protruding from the rectum, and on attempting to extract them great pain is produced. Mr. Bamfield in speaking of a case of this description, says that the membrane was infinitely more tenacious than coagulable lymph, that it possessed some degree of elasticity, bore considerable force and extension without breaking, and when cut with the scissors was not easily divided, but felt tough as if the instrument had been cutting a portion of mortified integument. Some authors do not believe that these membranes ever consist of the villous coat; and Dr. Dewar states "that supposing them to be truly organic, this would not be a decisive proof that they are parts of the intestines;" but on this we may remark, that false membranes thrown out on mucous surfaces, do not in general become organised, at least until the membrane itself has been removed by the disease.

In some cases the skin becomes slightly jaundiced or assumes a sallow or dusky hue, which may be independent of any actual disease in the biliary apparatus arising entirely in this form of dysentery, from the absorption of bile and fluid excrementitious matters lodged and retained in

1. On Tropical Dysentery p. 17 - 2 Obs. on Diarrhoea & Dysentery as they appeared in the British Army in Egypt.

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the alimentary canal."¹

When dysentery is attended with febrile symptoms in cold seasons or northern latitudes, the skin is hot and dry, but in Tropical latitudes and hot seasons the degree of heat must be determined by the feeling communicated to the hand, and the sensations of the patient, as the surface is sometimes moist and covered with perspiration, and as Mr. Beaufield remarks "Fever and heat of skin some times prevail, when the skin is quite moist,"² The same author states that in the south-west monsoon, in India the perspiration is copious, particularly in calm weather, and is not the effect of medicine or art, but excited by the heat of the climate.

In the advanced stages of severe cases, the patient is sometimes affected with darting pains in different parts of the body, and often with spasm of the lower extremities.

When an abscess is formed or mortification occurs the pain ceases, and the patient often flatters himself with the hope of recovery, and although when the mortification is confined to a small part of the villous coat of the large intestines recovery is not impossible, yet it more generally happens that his hopes prove unfounded, and symptoms of a fatal termination ensue.

1 Annisley ut supra

2 ut supra p. 35

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When the disease attacks the natives of India, the symptoms are generally not very acute, the accompanying fever often passing rapidly from an inflammatory to a typhoid type, and in this low form of the disease the skin particularly that of the extremities is frequently covered with a cold colligative sweat.

In Europeans who have recently arrived in India, and in those who are of a plethoric habit, possessing a rigid fibre and great irritability, it often assumes an hyperacute form, the symptoms both local and general being very severe. While in those who have been long resident in intertropical climates it generally occurs in a less inflammatory form, and often passes into the chronic state.

Section II

Dysentery of the West Indies

Dr John Hunter and Dr Masley both adopt the opinion of Sydenham in describing the dysentery of the West Indies as a fever turned in on the intestines. The symptoms seem in general to resemble those which I have just enumerated.

Dr Jackson however describes the evacuations, as being sometimes from the commencement "small, ineffective slimy - often pure slime without feculence, sometimes slime mixed with feculence and on some

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occasions, with blood." This form of the disease begins with an irksome sensation in the lower bowels, accompanied with a greater or less degree of pain. The thirst is increased and the appetite impaired, the pulse is nearly natural, with a soft skin and moderate heat, the symptoms as they advance gradually assuming the dysenteric character with more or less fever. But he states, that although many cases begin in the manner now described it is often a febrile disease from the commencement with cold and shivering or sensations of horror and creeping, on some occasions there is sickness, pain and vomiting, languor faintness and depression of spirits, severe griping and tenesmus, with a desire to go to stool, the evacuations being small and ineffectual in some cases, in others copious, offensive and mucous, mixed with blood which is sometimes pure and in streaks, in other cases it is dark and more equally mixed, with a faint sickly smell. Dysuria is often present, the tongue faint sometimes moist at others dry; there is loss of appetite, a febrile pulse, the skin is above the natural temperature and in some cases dry and harsh. The symptoms in the advanced stage often diminish in severity and there is a fallacious appearance of recovery.

1 Sketches of Febrile Diseases in the West Indies p. 433-

Acute, Uncomplicated Dysentery of Temperate Climates

which however is of short duration, the patient becomes emaciated, and the disease frequently passes into the chronic form.

D Hunter remarks, that "there subsists an intimate connexion between the remittent fever and this disease (dysentery) in Jamaica, the one frequently changes into the other, or the two diseases are often complicated with various degrees of violence." "An attack of dysentery often occurs as a termination to fever and less frequently it ends in that disease."

Section III

Dysentery of Temperate Climates

Having attempted to describe the acute uncomplicated dysentery as it occurs in Tropical Countries, we shall now make a few remarks upon it as it is observed in Temperate Climates.

Troops serving at home are by no means so subject to this disease as formerly, and this is particularly the case with regard to those in Ireland, where it is said to have been so prevalent as to have been named by the English the country disease.

Although in this country it is often a mild affluion when confined to the lower part of the intestines, yet

1 Diseases of the Army in Jamaica.

Acute Uncomplicated Dysentery of Temperate Climates

It is apt to extend along the canal, indicated commonly by pain and tenderness in the course of the colon, and the danger in general increases with the extent of the disease. It appears unnecessary to enter into a lengthened description of its symptoms for in doing so we should in a great measure have to recapitulate many of those mentioned above. Though in a milder form, we shall therefore confine our remarks particularly to those which denote any peculiarity in this disease as distinguished from that of tropical climates.

I have already noticed the difference that exists between European authors and those of Tropical countries, regarding the occurrence of febrile symptoms. The evacuations are at first frequent and in small quantity, consisting principally of mucus mixed with blood, with little appearance of healthy feces, while as we have already mentioned, in the colonitis of Sir J. Hallingall, they are copious differing at first only in consistence from healthy feces. Although some authors observe that mucus seldom if ever appear in the evacuations, yet on the whole I think they seem to be more frequently present than in the dysentery occurring within the tropics. Sir J. Pringle takes particular notice of

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them and observes "that they seem to have been formed in the cells of the colon, and to have lain there from the beginning; for we can hardly suppose them to have afterwards acquired that figure and consistence, during a constant irritation of the intestines, and the low diet which patients then use."¹

In the Dysentery which occurred in Dublin in 1818 scybala were not observed in the evacuations, or in the intestines after death, but as Dr. Cheyne remarks, "in many respects the dysentery of 1818 resembled that which has been described as occurring in tropical climates."² In the conclusions drawn up from the observations contained in his section on the "Active Inflammation of the mucous membrane of the Intestines." Dr. Mercrombius makes the following observations with respect to the evacuations. "When the disease is confined to the rectum or the lower part of the colon, the evacuations appear to be scanty, and mucous or bloody, with retention of natural feces, or small scybala discharges, — the dysentery of systematic writers. When the disease extends through the whole of the colon, or through a considerable part of the small intestines, we may have copious discharges, — at times, of thin healthy feces, at other times

¹ *Ut supra* p. 329 — ² *Ut supra* p. 32 —

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varied by mixtures of morbid discharges, and by articles of food or drink little changed. This appears to be the colonitis and the tropical dysentery of practical writers." ¹

Sir J. King states that he has seen white substances discharged resembling snot, and that Dr. Hux and he on examining one of these bodies voided by a dysenteric patient, they both satisfied themselves that it was "nothing but a bit of cheese," though the patient had fasted now since the beginning of his illness, which had been then about a fortnight's standing, and he was unable to determine whether the cheese had been colluded from smaller particles, which had passed from the stomach to the colon before the disease commenced, or had been since formed of the milk, "which he had always used." We need hardly add that the latter of these explanations is at least the most probable.

"We were both," he continues, "convinced that in whatever manner this substance was produced it must have been of the same nature as the corpora pinguia which we had so often seen in the dysentery." ²

In Dr. Fuller's description of this disease he has made no allusion either to the pain or tenderness

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felt in the hypogastric or iliac regions, although they frequently occur in this country, and in some cases may be traced along the course of the colon.

Dr Craigie employs the term *Zoonia*, to express inflammation of the mucous surface of the colon, and he makes two varieties of the dysentery of temperate climates, namely, *Zoonia simplex*, or dysentery occurring sporadically in autumn, and *Zoonia fastrensis*, or camp dysentery, which differs from the former principally in the symptoms being more severe, the concomitant fever greater, the disease being more rapid in its progress, and its tendency to affect many individuals at the same time.

Cases of sporadic dysentery occur almost every autumn, and in general it assumes a mild form. The greater prevalence of the disease at this than at any other season of the year is fully shown by a fact mentioned in Major Tulloch's Statistical Reports of the Army, that of 1649 Troops attacked in the United Kingdom, of which the dates have been recorded, 649 more in August, September, and October, "being twice as many as the average of the other months of the year; and the same feature has been uniformly manifested in every year of the period under observation."

Epidemics in Temperate Climates

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Even to enumerate the various epidemics that have taken place at different times in temperate climates would swell this Essay to an inconvenient extent, I shall therefore only mention a few of them, particularly those that have occurred in armies.

Sernel states that in 1538, although the season had been regular, dysentery raged generally throughout Europe, neither village nor town escaping.

A very fatal epidemic took place in London in the autumn of 1666. Sydenham also mentions that in that city, dysentery which commenced with chills and rigors, followed by heat occurred in 1670 after the cholera had ceased which prevailed during the summer. Willis likewise describes this epidemic under the name of dysentery, but it has been disputed by some, whether the description given by them is a correct one of that disease, for the former states that some of his patients passed no blood, and the latter that those whom he attended had for the most part none but watery stools. Many other epidemics have also been described as occurring in that city.

In Ireland dysentery has caused great havoc at different times. English and Scotch regiments are said to have been very subject to it, on their first arrival in some parts of that country. Both the garrison, and the army of King James at the siege of Londonderry, and

Epidemics in Temperate Climates

that of King William at Limerick, suffered much from this disease.

Owing to bad and scanty food, dysentery prevailed in several parts of Ireland, in 1722, and proved very fatal until wholesome and nutritious diet was provided.

Between the years 1796 and 1801 the soldiers in Park Limerick, Waterford, Belfast and other parts suffered much from dysentery. The British troops in Holland in 1809 were attacked with this disease owing chiefly to endemic causes and it often followed, or was converted into intermittent or remittent fever.

Dysentery perhaps cannot be said to have been epidemic during the peninsular war, but of all diseases it produced the greatest mortality. Sir J. Macgregor states that in the hospitals at Alentejo and Estremadura intermittent fever prevailed or accompanied dysentery, and remittent in July, August and September, when the army advanced rapidly and remained stationary in the two castles, and that in Ciudad Rodrigo at which, besides its being an unparalytic situation for an hospital, the sick were exposed to the effluvia emanating from 20,000 bodies which were calculated to have been buried either in the town or under its walls in a few months, and also at Golarico and Viseu, it was accompanied with typhus gravior and proved very fatal. It also appears from his paper, that from the 21st of December 1811 to

Terminations of Acute Dysentery

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the 20th of June 1844 seven thousand five hundred and twenty six cases of dysentery were admitted into the Regimental hospitals "but this," says he, "was by no means the whole that appeared in the army, the greater part, and those which were the severest cases of disease, being treated in the General hospitals." and during the period mentioned above no fewer than 1,414 men died of this disease.¹

Chapter II

Section I

Terminations

The acute form of the disease may be followed by a return to health, but it has frequently terminated fatally in one of the following ways. In ulceration, in sloughing and gangrene of a part of the intestines, in enteritis, or peritonitis which may be caused by the inflammation extending through the coats of the bowels or by an ulcer perforating the intestine, and the contents escaping into the peritoneal cavity. It may also terminate by passing into the chronic form.

When ulceration takes place the symptoms in general become more severe, the stools are bloody or sero-puriform and as the disease advances they are often mucous, of a dark colour, or watery with the smell of the washings of flesh. The blood discharged is dark, mixed with purulent streaks or ichor, but in some cases it is separate from the rest of the excretion, which indicates the existence of the ulceration at the

¹ Trans. of the Med. Chirurg. Society Vol. 6th p. 430

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lower part of the canal. Galien observed that the pus will be more or less blended with the feces according as the ulceration is seated higher or lower in the canal, and if its situation is so high as to admit of an intimate mixture, it will not be visible. Ulceration sometimes occurs in the early stage of the disease, even in mild cases, and when confined to the mucous membrane without any decided change taking place, but as it advances through the other coats, the symptoms become more marked and the pain more severe.

Lipothemia, singultus, hiccup, a milium eruption of the scrotum and pain in the abdomen, with a feeling of coldness there, involuntary discharges from the bowels, cold and bedewed countenance, with lividity of the lips, a glassy or micropurpuric appearance of the eyes, coldness of the extremities, great exhaustion, coma or convulsions, fetid stools and general fever of the body are the symptoms which mark the termination of the disease in gangrene.

The fatal issue may take place in three four or five days or it may be protracted to two or three weeks, owing chiefly to its violence having been partially subdued by the treatment employed.

Section II

Prognosis

Restoration to health may be expected when the symptoms though severe are relieved by the remedies employed,

Prognosis of Acute Dysentery

particularly if there is a diminution of the abdominal pain and tenesmus, if the tenesmus ceases, if the calls to stool become less frequent, and the evacuations more natural, if the constitutional symptoms abate, and the appetite returns.

But a fatal termination may be looked for, if no impression is made on the disease, if the fulness, heat and tenderness of the abdomen increase, if the pain becomes more severe and fixed, if the discharges and loss of blood are so abundant, as to exhaust the patient, if the sphincter ani becomes paralyzed, the stools passed involuntarily and are grumous mixed with clots, coagula and purulent matter, but particularly if portions of the mucous membrane are discharged, if along with these there are cramps in the lower extremities, subcutaneous tenderness, leipothymia stupor delirium, hiccup and vomiting, if complete strangury or suppression of urine take place, if the organs of sense become affected, the extremities cold and the surface covered with a colligative sweat, if vesicles appear about the lips and aphthae occur in the mouth.

A long residence in a tropical climate, advanced age and having suffered from previous attacks, are also circumstances which render the prognosis unfavourable.

Diagnosis of Acute Dysentery

Section III

Diagnosis

The principle diseases with which dysentery is most apt to be confounded are diarrhoea, cholera and hemorrhoidal flux.

Diarrhoea is often with difficulty distinguished from dysentery, particularly in the early stage. The chief marks upon which we must rely in forming the diagnosis are, that in diarrhoea the evacuations are more or less abundant consisting of loose liquid feces and not bloody, it is not attended with severe straining or tormina, the powers of life are not so soon depressed, and it is rarely accompanied with heat of skin. The nature of the prevailing epidemic may also assist us particularly at the commencement of the attack.

Cholera may be distinguished from dysentery, by the bilious stools, being more uniformly attended with vomiting, tenesmus being generally absent, the want of blood in the evacuations, the spasm of the extremities and abdominal muscles accompanying cholera being seldom observed in dysentery except near the termination of acute cases, and by cholera when severe running a more rapid course than dysentery.

With regard to Internal Hemorrhoids, the want of tormina, the evacuations being solid and not streaked

Chronic Dysentery

with blood, which when it does appear, is not mixed with the feculent matters, together with the history of the disease and the circumstances under which it occurs are sufficient to prevent us from confounding them with dysentery.

Some of the symptoms of Enteritis and Colic also resemble those which occur in dysentery, but the peculiar characters of the dysenteric evacuations are sufficient to prevent its being mistaken for either of these diseases.

Chapter III

Chronic Dysentery

The chronic form of dysentery occurs most frequently in those who have been long resident in warm climates. It may succeed to the acute state or be preceded by symptoms of common diarrhoea to which those proper to the disease more or less gradually supervene. In some cases it continues mild for a considerable time and unexpectedly becomes acute.

The patient is affected particularly about the umbilicus with sharp griping pains, which are quickly followed by a desire to go to stool, where a great deal of flatus is discharged with the evacuations.

Chronic Dysentery

which vary much in colour, being at one time greenish or yellowish, at others of a very dark greenish black appearance, sometimes resembling rice water, and in some cases they have a marbled appearance. Blood and purulent matter are sometimes discharged, either mixed with the evacuations or distinct from the other matters.

The tormina are generally absent or present in a slighter degree than in the acute disease, and the tenesmus is not so severe, these symptoms however are often much aggravated by retention of feces, or the passage of undigested food. A scalding sensation about the anus often accompanies the evacuations.

The patient generally complains of thirst, nausea and want of appetite. The tongue is loaded and sometimes presents a yellow fur, the skin becomes parched and the pulse accelerated particularly towards the evening.

After a paroxysm of pain and each evacuations the patient experiences a longer or shorter interval of ease, but the griping soon returns and the calls to stool become so urgent as to afford him but a short respite from his suffering, in so much, says Sir George Ballingall, that it is no ways uncommon for soldiers, when attacked with this complaint, to carry a mat

Chronic Dysentery

with them to the necessary, and to pass the night there, instead of running backwards and forwards between it and the barrack room." 1

Owing to the obstruction of bile, and the deranged function of chylification, together with the morbid secretions, the stools assume the white colour which has given rise to the term "white flux," they present an appearance intermediate between the whites of eggs, and a dirty fluid mixed with chalk or lime, frequently contain undigested food and are accompanied with severe straining.

Although this form of dysentery is often complicated with disease of the liver, yet the various appearances of the stools which we have mentioned do not necessarily indicate, that that organ is affected. Thus white stools may be produced by an increased secretion of mucus, dark stools by blood flowing from the upper part of the intestines, and being intimately mixed with the rest of the evacuation. It may also be remarked that melancholic persons have naturally often stools of a black colour. Green stools may also be produced by the admixture of bile with acid matter, without any derangement of the liver.

As the disease advances the thirst increases, the body becomes weak and emaciated, the formina increase

1 Op. cit. p 57

Terminations of Chronic Dysentery

and baricquimus is a troublesome symptom. The glans hyssericus is mentioned by Sir George Ballin-
gall as having been distinctly described in one or
two protracted cases in delicate subjects. Nausea is
more complained of, heave and bilious vomiting
become very troublesome. The abdomen is some-
times tumid at others flatter than usual. The pulse
loses its strength and increases in rapidity, the
skin has a sallow appearance, and at length death
takes place after weeks or even months of suffering.

Chronic dysentery is rarely met with in this
country, and although it most frequently attacks
Europeans who have been long resident in warm
climates, and who have suffered from diseases of the
stomach, liver or bowels, yet it also afflicts the
natives of India. And Mr. Connely states that in them
it presents more decidedly the character of a glubly dis-
-charge from the bowels, and is more evidently the
result of deficient tone in the vessels and follicular glands
of the digestive mucous membrane, whilst the inflam-
-matory character of this disease is most prominent
in the European constitution.

Terminations - Patients afflicted with this form of the
disease may be cut off by an attack of acute peritonitis, from
the contents of the intestines wrapping into the abdomen owing

Terminations of Chronic Dysentery

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to the rupture of their coats, which generally takes place in the situation of an ulceration.

Spasmodic constrictions often occur in the colon, and owing to the long continued inflammatory action, they not infrequently become permanent in one or more parts of its course, thus sometimes take place to such an extent as to act as an impediment to the passage of the feces, and consequently distention takes place in the portion of the gut above, which may prove fatal either in the way already mentioned or from the distended colon impeding the function of other organs, or as some authors think more probably, from the absorption of a portion of the retained feces, and the circulation of the thus vitiated blood through the system.

The explanation given by Mr. Bampfiele of the retention of feces in that variety of chronic dysentery which is "produced by an ulceration or excoriation of the intestines," he quotes his own words in "probably from the pain in transmitting them through the ulcerated parts, being greater in this than in the other varieties, and from the more powerful operation of the law of the animal economy by which efforts are made to resist those motions of muscles which induce pain in their strain." This opinion however would seem to imply a power over the motions of the intestines which we do not possess, for although we may be able to resist the passage of fecal matter from the rectum we yet cannot

Prognosis of Chronic Dysentery

impede its progress through the rest of the canal.

Another way in which this form of the disease may terminate is by an abscess in the liver, the symptoms of which are often obscure, and should therefore be carefully watched for.

The duration of chronic dysentery is very various in some cases lasting for months in others, for twelve or eighteen months and in some even longer.

Prognosis. When the abdominal pains cease, and the morbid evacuations are diminished in quantity, the appetite strength and flesh increasing, and an improvement taking place in the digestive organs a favourable opinion may be formed of the issue of the case. An improvement in the general health of the patient, may also be looked upon as a favourable appearance, as it indicates a more healthy state of the digestive organs, and it has been observed that in some cases the appetite is improved, and the strength and flesh restored, before the stools become perfectly natural and are still frequent and the intestines more easily excited by imperfectly digested food.

The occurrence of increased secretion from the bronchial and nasal membranes has sometimes acted in checking the dysenteric secretions, and in some instances this effect has been permanent, but in general the dysenteric symptoms return when the catarrh and cough ceases. In the same way it is often observed that upon dysentery or more

Prognosis of Chronic Dysentery

commonly diarrhoea, attacks a patient afflicted with a chest complaint as Phthisis or Chronic Bronchitis the pulmonary symptoms are much relieved during its continuance.

I had occasion last autumn to treat a case of this description, which occurred in an old soldier who had been long afflicted with chronic Bronchitis from which he was much relieved, he was attacked with dysentery during which the symptoms in the chest were much relieved, the expectoration which was previously very copious, was greatly diminished, but when the dysenteric symptoms were removed, those in the chest returned with increased severity and ultimately proved fatal.

An unfavourable prognosis may be formed, when the pains become more severe, when the morbid evacuations are increased, consisting of sanious blood, or fetid purulent discharges, or containing portions of the villous coat of the intestines, and are accompanied with increasing debility, when the digestion is gradually impaired, and the appetite lost, and when the patient passes restless and feverish nights.

Dysentery complicated with Disease of the Liver

Chapter IV Complications

The complications which we shall more particularly describe, are those with disease of the liver, spleen and some other viscera in the abdomen, with different forms of fever, with scurvy constituting the scarletic dysentery, with worms in the intestinal canal, with haemorrhoids and with rheumatism.

Section I

Dysentery complicated with Disease of the Liver

The complication of dysentery with disease of the liver or the hepatic dysentery of tropical writers, occurs most frequently though not exclusively in the subacute and chronic form.

The coexistence of hepatic inflammation and dysentery seems not to be so frequent, as has been generally believed.

In a valuable table given by Sir George Ballingall it appears that out of the dissection of thirty five cases of dysentery in India abscess in the liver was found in four only, and in these the death can with more propriety be attributed to the diseased condition of the intestines, for in one mortification had taken place in the sigmoid flexure and rectum, in another in the sigmoid flexure alone, in the third in the caecum and in the fourth the lower part of the colon was found livid externally, and extensive ulceration was observed on loosing it open.

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Mr. Haniffield states that in his practice hepatitis occurred along with the "inflammatory form of dysentery" in the proportion of one case in ten, in a much smaller proportion in the severe variety, and not at all in the mild variety, he also mentions that he has seen cases where disease of the liver had been before death, predicted as the cause of the fatal symptoms, and in which it was afterwards found "perfectly sound." Dr. Abercrombie observes that out of "sixty four cases of chronic dysentery from India, Ceylon and the coast of Africa," reported by Dr. Knox, that gentleman found disease of the liver in ~~two~~ only.

Dr. Maddell in the account which he has given of the diseases which prevailed among the British troops at Mangoon, makes the following remark on this subject: "in all the dissections I have made of those who died of the disease (dysentery) no organic lesion was ever discoverable in this viscus."³ (the liver)

He also states in a note, to show how little disposition there was to liver complaints, that only two cases of hepatitis came under his care.

Mr. Fortis on the other hand has doubted and even denied the existence of simple dysentery in the East Indies, and states that it differs in nothing from bilious and liver fluxes, so commonly to be met with there."⁴ But as Dr. Johnson⁵ remarks,

Mr. Fortis's experience was confined to hospital practice on

1. Op. cit. Preface p. 6. — 2. Op. Cit. p. 264. — 3. Trans. of Med. & Phys. Society of Calcutta Vol. III.

4. On Bilious Fever and Flux p. 166. — 5. Influence of Tropical Climates &c p. 364.

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The Garamandel coast, where almost every case that he witnessed was connected with hepatitis; and where the discharge of vitiated bile occasioned by the derangement in the liver, and the heat of the climate, led him to consider the fluxes of India as entirely different from the dysenteries of Europe, and the same author relates his own case to show that dysentery may occur in India unconnected with "bilious or hepatic flux."

Dr. Sympson mentions that the functions of the liver and skin were disordered from the commencement of the disease, and continued so until its termination, and it may be remarked that the liver seems to be more frequently affected in Ireland than in this country. Dr. Abercrombie has only observed it in one or two chronic cases.

The complication of dysentery with disease of the liver renders it much more difficult of cure as the one disorder tends both to produce and perpetuate the other.

The bile may be excreted more or less in excess, or otherwise changed without any actual disease of the liver being present, and the calomel and other cathartics used for the cure of the disease may in some instances be the cause of the deranged function of the liver.

In hepatic dysentery it is important to remark the nature of the connexion of the two disorders. In some cases the morbid secretion of bile or structural disease of the liver

1 ut supra p. 22-

Dysentery complicated with Disease of the Liver

precedes the dysenteric affection, and in such the latter may often be considered as merely a symptom of the former disorder.

In other cases however, particularly those of a subacute and chronic character, the disease of the liver occurs consecutively, and is frequently produced by the dysenteric affection. It seldom yet sometimes happens that the disease of the liver and bowels originates at the same time and it is remarked by Mr. Annesley that in those cases however where owing to the state of the predisposition in which the bowels and biliary organs may be at the time, and the nature of the exciting causes, disease is nearly simultaneously produced in those viscera, it will generally be found on closely analyzing the phenomena, that the disordered function of the liver is remarkably efficient in producing the dysenteric affection, and that a morbid state of the biliary secretion is evident at its commencement, even although the liver may betray no symptoms of serious derangement at this period of the disease."

When the disease of the liver occurs along with acute dysentery, the former is also frequently of an acute or subacute character, while abscess and the chronic changes of the liver are more commonly combined with subacute and chronic dysentery. The coexistence of the two diseases is evident when the affection of the liver has been manifest for some days before the

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disorder of the bowels takes place, or when the latter follows disease of the liver of long standing. But when the disorder of the liver & bowels occurs nearly simultaneously, the symptoms of the former are often entirely obscured in the severity of the dysenteric affection, and hence disease of the liver is sometimes discovered after death when its evidence had not been suspected during life.

The progress of hepatic dysentery in some respects resembles that of the uncomplicated disease. The symptoms presented by it vary much in different cases, or at different stages of the same case. It generally commences with a sense of creeping in different parts of the body, paleness of the countenance, chills or rigors, with a feeling of coldness or uneasiness in the back, griping pain through the bowels, sickness and loss of appetite, sometimes attended with vomiting. The evacuations become frequent, generally copious, at first, without either mucus or blood having an offensive odour and varying much in colour and consistence, being at first greenish or greenish black, and as the disease advances they become mixed with blood and present every variety of appearance, sometimes stringy or watery with a frothy greenish slime on the surface, in the advanced stage of severe cases they are frequently watery and more or less intimately mixed with blood and present a reddish brown ochre-like

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Dysentery complicated with Disease of the Liver

appearance, and as the disease proceeds they resemble much those indicative of the last stage of simple dysentery. They vary in number being more frequent during the night, and usually accompanied with scalding at the anus, and severe tenesmus, proctapsus ani also not infrequently occurs. There is generally difficulty and pain in passing urine, and when it is high coloured, even green, scanty and pungent. Mr Ferguson considered it as a sufficient diagnostic of the hepatic affection, and which, in speaking of the dysentery of Portugal and Spain, he states was a "never failing symptom" in the aggravated form of the disease.

The patient also has in general a feeling of weight and uneasiness, with pain in the epigastrium increased by pressure, and often extending to the region of the liver, right scapula and sometimes to the right shoulder, anxiety at the precordia, fits of dyspnoea a troublesome cough with pain or uneasiness in the right side of the thorax, vertigo and sometimes vomiting.

The same remark is applicable here as in simple dysentery with regard to the pulse, for little confidence can be placed in it particularly as regards its frequency in marking the state of the disorder, even in severe cases.

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it sometimes indicates but little danger up to the last stage of the disease, in others it is only slightly affected through the day, becoming quick and irritable towards night, and in some cases it is irregular and even intermitting. The Tongue also varies much in appearance, at first it is generally white and the papillae erect, or covered with a yellowish fur, in the advanced stage of the disease it becomes clean smooth dry red and lobulated, or presents a dark crust, particularly at its base. There is urgent thirst and the patient expresses a great desire for cold drinks. The surface of the body has a dirty appearance, with a hot harsh dry feeling, in some cases it is covered with a greeny perspiration, and towards the last stage of the disease copious sweats often occur. The countenance is anxious and expressive of much suffering, and in some instances has a livid appearance indicative of much danger.

When on dissection the liver is found diseased, it must not always be concluded that it was the cause of the dysenteric symptoms, and as such overlooked during life, for as we have already mentioned, it sometimes occurs as a consequence of the dysenteric affection. In some cases this may probably be owing to the extension of the inflammation along the alimentary canal to the liver, but it is much more probably

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caused by the determination of blood to the intestines inducing an increased flow in the portal system and thus augmenting the secretion of bile which is often acrid or otherwise altered in its properties, this is more certainly produced when the liver is in a state of congestion and when there is an accumulation of bile in the ducts and gall bladder. The collection of fecal and other vitiated matters in the intestines may act as a source of irritation to the liver and tend both to disorder the bile and even produce a morbid condition of the substance of the organ, by being absorbed into the circulation and thus vitiating the blood in the portal veins. This is rendered more probable from Physiologists having now proved that the contents of the lymphatics are not only slightly intermixed with those of the veins, in other ways besides the termination of their largest trunks in the veins of the neck, but that the small branches of the veins themselves have the power of absorbing, at least as far as regards fluid matters.

When the disease of the liver thus supervenes on the simple form of dysentery, the symptoms which indicate it are often very obscure. The patient generally becomes irritable, the pulse quick, the tongue dry, sometimes presenting a dark fur, the stools are constantly varying in appearance, being at one time vivid and dark

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at another green and streaked with blood, and as the disease advances, they often become ochre-like, or appear intimately mixed with blood and have a reddish brown colour. There is also in general irritability of the stomach and often pain in the region of the umbilicus.

In the Chronic form of Hepatic Dysentery the symptoms are less severe and not unfrequently approach those of diarrhoea, there are griping pains about the umbilicus, but little or none is experienced on pressure in the course of the colon. The evacuations occur less frequently than in the acute variety, they vary in appearance depending principally on the condition of the bile, being sometimes dark green indicating a morbid state of that fluid, at other times they are clay coloured or white owing to deficient or obstructed secretion of bile, or they may be dirty offensive and watery, in some cases they resemble yeast or cream, or are slimy with broken down food and half digested food. In addition to the other ways in which the contents of an hepatic abscess escape, the matter not unfrequently finds its way into the intestines, and is observed in the evacuations, either by means of the ducts, or from adhesions forming between the inflamed surface of the liver and a portion of the alimentary canal, the purulent matter is however in some

Dysentery complicated with Disease of the Liver

cases so intimately mixed with the rest of the evacua-
-tion as to render it difficult of detection.

The tormina and tenesmus are seldom very
severe and sometimes little complained of. The
patient often has a feeling of fullness oppression or
pain at the epigastrium right side of the thorax and
hypochondrium, but even when these symptoms are
absent, the presence of the hepatic affection may some-
-times be detected by the livid sallow countenance, dirty
appearance of the skin great anxiety and depression of
spirits the eyes also have frequently a pearly appearance,
and the patient has more uneasiness when lying on any
but the right side.

Although jaundice sometimes occurs in dysentery
connected with disease of the liver yet that is by no means
means essential to its production, for it may be caused
by the absorption of bile from the alimentary canal,
as has been already mentioned in acute uncomplicated
dysentery, or it may be owing to obstruction of the biliary
ducts, or a tumefaction of the lining membrane of the
duodenum preventing the escape of the bile at the
orifice, without any structural disease of the liver.

Hepatic Flux as well as originating may also
terminate in abscess of the liver, or in other changes
in that organ, as well as in the different ways

Dysentery complicated with Dis- of the Spleen, Pancreas and Mesenteric Glands

already mentioned, in treating of simple dysentery. It seems unnecessary to describe the symptoms marking the fatal termination of this affection, as those already enumerated in the uncomplicated form of the disease, denote the same result in hepatic dysentery, and when conjoined with those indicative of danger in the liver affection, they must of course be looked upon as still more likely to lead to a fatal issue.

Section II

Dysentery complicated with Disease
of the Spleen, Pancreas
and Mesenteric Glands

The complication of dysentery with disease of the spleen is more frequent in the natives of India than that with the liver, and with regard to the combination of dysentery with other diseases in the Peninsula Sir J. Macgregor makes the following statement. "I found that the viscus most frequently affected was the spleen, next to that the liver which was indeed diseased, in nearly an equal proportion of cases with the spleen, The mesenteric glands were not infrequently found affected, and sometimes the pancreas was one map of disease."

The affection of the spleen like that of the liver may

Dysentery complicated with different forms of Fever
 either occur previously to, or simultaneously with, or
 be produced by the dysenteric disease. There is nothing
 particular in the symptoms of this com-
 -plication, except in those cases where the spleen is
 much enlarged, it is often difficult to detect the diseas-
 -ed action in that organ.

If emaciation has proceeded to a considerable ex-
 -tent and the abdomen is hard and full it may
 be suspected that the Pancreas and Mesenterij are en-
 -larged. These complications most frequently
 occur in subacute and chronic dysentery, in mal-
 -aria districts and when this disease is preceded by
 periodic fevers. The patient often complains of
 aching pains in the back, and the countenance
 has a leady appearance, with a dry skin and
 much emaciation.

Section III

Dysentery complicated with different forms of Fever

Instead of the pyrexia which is symptomatic of
 local disease, dysentery is not unfrequently found
 in connection with different forms of idiopathic fever
 as the intermittent, remittent and typhus, and we
 have examples of its combination with each of these in
 the dysentery that occurred in the Peninsula to which



Dysentery complicated with Intermittent & Remittent Fevers
we have already so often referred.

When persons are exposed at the same time to
the causes of dysentery, as well as that of remittent
and intermittent fevers, as the external applica-
-tion of cold and moisture, which in certain cir-
-cumstances produces the former disease, and marsh
miasmata which induces the latter, it is not sur-
-prising that these diseases should occur separately
in different individuals and conjointly in others.

Many instances of their combination might
be quoted. We have already noticed the connexion
that exists between the remittent fever and dys-
-entery in Jamaica, as described by Dr Hunter,
the one often changing into the other, and both
frequently complicated with various degrees of
severity.

The following passage also which is given by
Roederer in a note, shows the relation which some-
-times subsists between intermittents and dys-
-entery. Memorabilis est observatio huc tractanda, quod
hoc anno multi febre intermittente, et Dysenteria simul
laborarint, sive vera intermittente Dysentericâ. In vico autem
vicinis epidemica grasata est febris intermittens sola, ut
quinque et ultra in eadem domo laborarent; in alio vico
paullò remotiori, montibus vicinis cincto, eodem tempore

Dysentery complicated with Intermittent & Remittent Fevers,

sola Dysenteria scribit, multasque jugulavit; in aliis denique vice inter priores medicos, uterque morbus rarissimus fuit.

Dr Masley² remarks that the stools are more frequent and all the symptoms more aggravated, at those hours when the current fevers are in their exacerbation and the reverse when these fevers are in their remission. The same observation is made by Dr Kollo³ who also adds, that when the disease terminates early in death, the fever has not disappeared, but a part in producing the fatal scene; when the disease leaves a diarrhoea, the departure of the fever is evidently marked, commonly in fourteen or twenty days, and when it goes off without any consequence, the fever generally terminates before the fourteenth day, usually about the seventh or eighth. The similarity which in many respects subsists between dysentery and the Arabian fevers in Minorea induced Dr Hagerman to try the effects of bark in the former disease.

Dysentery more frequently complicates the advanced stage than the commencement of intermittent fevers when disorder of the liver and other abdominal viscera has also been produced, in such circumstances it is often accompanied or followed by general dropsy, the patient suffering considerably until relieved by death.

We may easily understand why dysentery and other

1 De Morbo mucoso p 21 - 2 On Tropical Diseases 3^d Ed. p 214 - 3 on acute Dysentery

Dysentery complicated with Typhus

affections of the bowels as well as intermittent fevers are less frequently met with in this country than they were about a century ago, the soil being now more thoroughly drained and the atmosphere less moist.

Complication with Typhus - This complication is of greater importance than that which we have just described, it is considered by many as the only form of the disease to which Gullen's *Typhus contagiosa* is strictly applicable.

It occurs among the poor in seasons of scarcity, and in barracks, garrisons and crowded ships, when a number of persons are collected together, and due attention is not paid to cleanliness and ventilation. It commences with prostration of strength, headache, vertigo, increased sensibility to light, griping and purging, and sometimes pains in the limbs, to these succeed stupor, anxiety at the precordia, a foul clammy tongue which soon becomes dry, and presents a brownish coating, the thirst is excessive, the pulse is at first frequent and small and as the danger increases it becomes intermittent and weak. The evacuations are frequent, scanty, preceded by tormina and tenesmus, and composed of mucus mixed with more or less dark coloured blood, and are very fetid. The urine is scanty, thick and high coloured.

The severity of the tormina and tenesmus is generally lessened as the disease advances, and not unfrequently about the ninth or eleventh day a diarrhoeal discharge comes

Dysentery complicated with Typhus

on which wears out the patient rapidly. Between the fourth and sixth day a milinary or petechial eruption sometimes appears on the neck, breast, arms or abdomen. Epistaxis is not unfrequent in young and robust persons, but it does not prove critical. As the disease proceeds the surface has a dirty appearance, the body and evacuations emit an offensive penetrating odour, and the stupor is attended with low delirium. If the disease is not arrested death may occur from the sixth to the twentieth day, but in some cases even sooner, while in others life is prolonged for some days beyond the latter period.

We have several examples of this form of the disease on record some of which may be mentioned.

Bontius' relates some circumstances regarding a dysentery which prevailed in 1628 in the town of Batavia, which was at that time so closely besieged, that the waters of the river and the air, were tainted by the putrid carcases of men and beasts dead of famine or their wounds. He mentions four cases, out of six hundred which are referable to the combination we are now considering. In one, he states, that the subject of it fell into a continual fever, and afterwards into a dysentery, then Epidemical and died notwithstanding every possible assistance; in the last stage of his illness there appeared black and livid spots over his body, with a cold and fetid sweat.

1 De Medicina Indorum Lib. 2.

Dysentery complicated with Typhus

The description given by Clarke of the Bengal dysentery also exemplifies this form of complication, and he observes that the dysentery seemed rather a symptom of the fever than an original disease. "It set in for the most part with lassitude, slight rigors, disorder of the stomach and bilious vomiting, at first exactly resembling the fever, but the paroxysms did not run so high, and the patients were not so apt to rave. In a day or two sometimes later, the dysenteric symptoms made their appearance, and were attended with the greatest prostration of strength, and spirits."¹

The account given by Ligner of the dysentery which prevailed at Mincquan also furnishes us with another example and in speaking of it Sir John King observes, that the violence of the symptoms mentioned by him, exceeds any thing he had seen before the first seizure, but when many soldiers, even with the most favourable cases, were crowded in the hospitals, the dysentery at last appeared with all the virulence that it did at Mincquan, and after remarking that dysenteric patients are liable to a low and dangerous kind of fever, he states that "the most fatal sort of fever, which so often attends the dysentery of armies though not essential to it, is the hospital or jail distemper, which at all times infects foul and crowded wards, but never so much as when they contain men labouring under a putrid disease. This fever combined with bloody flux was generally mortal."²

¹ Obs. on the Diseases of Hot Climates ² Op. cit. p. 226-227.

Dysentery complicated with Typhus

Dr Rogers has noticed the constant connexion that existed between the epidemic fever or malignant typhus of York and the malignant dysentery, he remarks that the winters of 1728-9 and 30 (during which time this fever was again renewed) were notoriously infamous for bloody fluxes of the worst kind and that the dysenteries which kept pace with this epidemic fever seemed to partake of the same common cause.

In his account of the dysentery of 1818 Dr Cheyne observes that intermittent fever which is a rare disease in Dublin, was seldom seen during the time that the dysentery prevailed, and also that he was informed by Mr Lloyd that scarcely a case of this disease occurred in a very aquatic tract which lies between Malloye and Swords, and is about five or seven miles from Dublin, while continued fever was epidemic, nor that district, and the same observation was made in other parts of the country where ague is often endemical. "It is pretty clear therefore," he states, "that the cause of the dysentery of 1818 differs from that which also produces intermittent fever; the disease of 1818 rather belonged to that great variety of dysentery which originates in causes that are also productive of continued fever." The dysentery frequently occurred at that time when there seemed the greatest liability amongst the convalescents from fever to relapse, it was sometimes converted into a fever, and the latter disease was frequently changed into dysentery, and during convalescence from dysentery

Dysentery complicated with Scurvy

several patients were seized with an attack of fever. "in short," says Dr Cheyne, "these forms of the disease were convertible the one into the other; so that the opinion of Sydenham, that dysentery is a *febris intro-versa*, that it is never turned in upon the intestines, received support from our observations."

From the tendency which dysentery has to combine with other diseases and particularly fevers, or to change them into its own nature, some pathologists have considered it as nothing more than as Dr Jackson expresses it, fever with a peculiar "local mode of action."

Section IV

Dysentery complicated with Scurvy

Scarlatine dysentery as well as scurvy in all its forms is much less frequently observed at the present time than it was formerly, particularly during long voyages, owing to the prophylactic means which are now adopted. But where those causes exist to which this combination is owing it not infrequently makes its appearance in a very distressing form, both in ships, and in sieges, campaigns and active military services within the Tropics.

The disease is generally preceded by a bad state of health, with very varying appetite, diarrhoea and emaciation.

The evacuations soon become frequent, though in general not so much so as in acute dysentery nor are the *farina* or *tenesmus* so severe. The stools present a straw

1 Op. Cit. p. 13+14 - 2 Hist. & Cure of Ven. Epidemic & Contagious p 324 -

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Dysentery complicated with Scurvy

or various appearance, with mucus and dark grumous blood, mixed more or less with feculent matters. It seldom happens that the natural forces are retained the bowels being in general easily moved and the stools sometimes copious. In some cases the function of the liver is not materially altered, in others there is an augmented secretion, or morbid state of the bile, which increases the number of the evacuations, and the excretion of the mucus surface of the intestines, while at other times it is much diminished in quantity or nearly entirely suppressed. The urine is generally scanty of a dark muddy appearance and sometimes sanguinous. The febrile movement of the system differs from that accompanying acute dysentery being more of an adynamic character, the pulse is at first small and weak and in the advanced stage of the disease it becomes accelerated, but still continues small and feeble. The countenance has generally a dull pale colour, or a livid dark dyed appearance, in some cases sunk and in others slightly oedematous. The gums are spongy of a dark purplish colour, humid and disposed to bleed from the slightest injury, the tongue has a flabby appearance and is frequently raw with a red or reddish brown colour.

The abdomen is sore upon pressure, in some cases drawn inwards, in others ascitis is present which either precedes or supervenes upon the dysenteric symptoms. When the ascitis

Dysentery complicated with Scurvy

appears first, it has been partially and occasionally entirely removed by the occurrence of the dysentery, on the other hand it sometimes happens that when the dysentery disappears as it is intended. Livid patches, purple petechis or extensive ecchymoses appear on the surface, particularly in the hands and lower extremities, which are also often cold and acuminations. The cicatrices of old ulcers become livid and again break out.

The stomach is frequently very irritable and vomiting prevails, in severe cases or in the advanced stage of the disease the matter ejected is often a bilious bloody or grumous fluid accompanied with distressing flatulence. Headach a feeling of weakness with pain in the hypochondrium, about the attachments of the diaphragm and also in the loins is often induced by the constant vomiting.

The patient loses all relish for salted meat or the food on which he had previously lived, and has an ardent desire for fresh meat, vegetables fruit and vegetable acids, spices and also for milk and other substances which cannot be procured at sea.

In the advanced stage of the disease portions of the villous coat of the intestine are observed in the evacuations, often accompanied with a profuse discharge of blood, coldness of the surface and great debility. The anus is sometimes excoriated and the sphincter not infrequently becomes paralyzed. The patient is much emaciated, and his distress is increased in

Disentery complicated with scurvy

some cases, by the ulceration of the gums and their separation from the teeth which become loose, the gums also sometimes bleed copiously, and the teeth drop from their sockets, these symptoms tend greatly to increase the great dispondency which goes along with the advanced stage of the disease. This affection sometimes passes into a state of chronic diarrhoea or lintery.

It is worthy of remark that the dysentery sometimes continues, when the scarletic diathesis is improving or after it is removed, while in other cases it disappears before the removal of the scarletic diathesis, and even when other symptoms of scurvy are increased.

The Prognosis may be favourable when the symptoms improve under the means employed, when we have a proper diet at our command, when the patients strength increases, and the causes of the disease are removed. But it will be unfavourable in those circumstances where we have not the adequate means in our power to obviate the scarletic tendency, when there is great debility and emaciation, linteric stools, copious discharge of blood from the intestines, and the evacuation of portions of the villous coat, fetor of the stools, of the breath or of the patient, which is sometimes accompanied with insensibility, ill conditioned ulcers, coldness of the extremities, dyspnoea, vomiting of grumous matter,

Dysentery complicated with Worms — with Hemorrhoids
 leiphotomia, a rapid full and almost imperceptible pulse,
 paralysis of the sphincter ani and loss of the senses.

Section V.

Dysentery complicated with Worms

Among persons in unhealthy situations and natives of hot countries, this complication is often observed, and in such circumstances the dysentery commonly presents an asthenic character. Their evacuation is often considered as unfavourable, and the frequency of their occurrence has induced many to consider them as a predisposing cause of dysentery. Different species are sometimes observed, but the large round worm is the most frequent. They are often discharged by vomiting, as well as by stool; "it was very common" says Monro, "for the sick to vomit up Worms of the round kind, or discharge them by stool."

Section VI

Dysentery complicated with Hemorrhoids

We have already mentioned the symptoms which enable us to form a diagnosis between these two affections, but they may coexist with each other. In such circumstances the liver is often affected and the tenesmus severe, copious discharges of blood frequently take place from the hemorrhoidal

Dysentery complicated with Rheumatism

repels and thus together with the prolapsus of the tumours at stool, and their strangulation when the spasm of the lower circular fibers of the rectum is great, often alarm the patient as well as greatly augment his sufferings.

Section VII

Dysentery complicated with Rheumatism

The frequent association of dysentery with rheumatism has given rise to the opinion, adopted by several authors, that the former disease is of rheumatic nature, and hence it has been called Rheumatism of the intestines. The connexion of these two diseases is mentioned by Winslow, Hall, Richter and many other authors. Winslow observes that he has often seen persons attacked with pains resembling those of chronic rheumatism, after they had recovered from dysentery, without rigors or any other signs of fever preceding or accompanying them, he has sometimes seen men affected with dysentery and rheumatism in whom he cured both by the same means. He has likewise known the gripings of dysentery accompanied with severe pains of the whole body and particularly of those parts which are generally the seat of rheumatism.

He also remarks that rheumatism has not only

Dysentery complicated with Rheumatism
 supervened upon dysentery, but that the reverse has
 also happened, and one of the cases which he relates is that
 of a woman who had suffered from severe general
 rheumatism which was subdued by bleeding, blisters
 and quiacum and in one day she was attacked by
 genuine dysentery, this also yielded to the means
 employed, and the rheumatism returned, though
 with less violence to the joints. The same author
 states that he has observed on using purgatives in
 acute rheumatism that the evacuations have assumed
 the dysenteric character, accompanied by griping
 and composed almost entirely of mucus, sometimes
 so acrid as to induce tenesmus, and this effect was not
 produced by any particular purgative. Many other
 passages might be quoted from different authors who
 have noticed the connexion of these two diseases, but
 there seems not to be sufficient evidence of the inflamma-
 tory action in dysentery being of a rheumatic
 character, as is suggested, not only by authors already
 mentioned, but also by Wagler, Fischer, Sims, Hoyle, and
 Hergens and others. These two affections may how-
 ever sometimes coexist, or the one may supervene
 on the disappearance of the other. Rheumatism is most
 frequently found connected with dysentery produced by cold
 and moisture or changes of temperature and terrestrial

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emanations, causes which likewise occasion the
former disease.

Part Second
Morbid Anatomy
Chapter I
Acute Dysentery

In examining the Bodies of those who
have died of dysentery, it is the effects of the diseased
action rather than the disease itself which we general-
ly observe, but even in such cases, from the nature
of these effects and the condition of the parts least
changed we may infer the state of those most disor-
ganised previously to the commencement of
the structural derangement, and as the changes
produced are evidently the result of inflammation
we must conclude that the disease is of an in-
flammatory nature, a circumstance which it
is of importance to bear in mind in regulating
the treatment which should be followed particu-
larly in the early stage of the disease.

On opening the abdomen a considerable
quantity of offensive gas often escapes, and if mark-
ed spiculation has occurred an intolerable smell is fre-
quently emitted. An effusion of serum is found in

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The cavity of the peritoneum which is in some cases mixed with coagulable lymph. The bowels are generally found distended with flatus, the large intestine has in some parts a doughy, in others a membranous feel, its surface presents various colours, which differ in different cases and in different parts of the bowel in the same case. In some instances however it presents its natural appearance, and in others distinct marks of inflammation may be seen. These appearances on the external surface generally depend upon or bear some relation to those internally, but this is not always the case. The large intestine is also variously displaced and elongated, and adhesions are often observed uniting the different viscera together or to the peritoneum. The colon is often found contracted in different parts of its course, the contractions have sometimes the appearance of a ligature passed round the canal, in others they occupy a considerable extent of the intestine, in the more chronic form of the disease these they are often firm and almost cartilaginous. Several of these may exist together the portion of the gut placed between them being much distended, and containing either flatus with feculent matter and depraved secretions, or

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flatus alone. In some cases air and even the other contents of the intestines, are found to have escaped into the cavity of the abdomen, from the coats of the bowel having given way, this generally happens in a situation where ulceration has been going on on the internal surface. The sigmoid flexure of the colon, the caecum and the appendix vermiformis are generally found largely involved in the morbid changes, and the only explanation with which we have met, is a very ingenious one offered by Sir George Ballingall, which we think may at least in some degree account for the fact.

The asker, if this may not be accounted for by their dependent situation with respect to the origin of the artery that supplies them? This only refers to the caecum as long as we remain in the erect posture for the sigmoid flexure is then as high as the origin of the artery by which it is supplied; but, adds Sir George, when the patient becomes bed-ridden, and lies alternately on the right and left side, they both come alternately to occupy a situation very favourable to any accumulation of blood that may be disposed to take place, and the position of the parts which has so great an influence in other cases, will probably operate more

1 Op. cit. p. 62-

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forcibly here, as the veins of the abdominal viscera are destitute of valves, and although, upon the whole the blood is assisted in flowing through them by muscular pressure, yet it is not, as in the veins of the extremities, assisted through each individual trunk by the action of circumpunct muscles.

Although as we have already mentioned this may in some degree account for the fact which we are considering, yet it is probable that it is not the only cause, for a similar circumstance (namely both the extremities of the same canal being affected at the same time) is seen in other cases where this explanation cannot be applied, and it is likely that the connexion which we formerly noticed, as being observed by Dr Murray to exist between disease of the ileo-cæcal valve and the stomach producing vomiting is of the same nature. It is difficult however to say what this connexion may be, to refer it to sympathy is only to express our ignorance, and we must therefore in the meantime rest satisfied with ~~with~~ a knowledge of the fact.

The appendicular epiplois are also affected, they are reduced in size and have a gelatinous appearance.

The stomach seldom exhibits any signs of disease and the same remark is generally applicable to the

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small intestines, but in some cases signs of inflammation may be observed particularly in the part near the caecum

The omentum is sometimes found adhering to the convolutions of the intestines, to the brim of the pelvis, or to some part of the abdominal parietis it is generally firmer than usual, has a doughy feel or it may be shrivelled drawn up to the arch of the colon, or to one side. These appearances are more particularly observed when the disease has been protracted, complicated with disease of the liver or when general inflammation of the peritoneum has been excited by the escape of the contents of the intestines into the abdominal cavity, in the way already mentioned.

Abscesses have been found between the lamina of the omentum mesentery and mesocolon. (Hempfield)

The coats of the large intestine are often deficient in vital cohesion, and lacerated with the greatest ease they are also frequently considerably thickened. On laying it open, different changes are observed, the mucous coat in some parts presents marks of inflammatory action, being of a bright red colour, and minutely injected, in some it is abraded, in others

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It has passed into ulceration, and in some to sphaculation. The mucous membrane is sometimes removed to a greater or less extent, in some cases several of these abrasions exist in others only one or two are seen, the intervening portions being easily removed from the subjacent tissue, and in some instances so far separated as to allow a probe to be passed under them, and their edges present an irregular and elevated appearance.

Ulcerations may exist either along with or independently of the appearances now described, they may be found in any part of the large intestine, but they are most frequently observed in the caecum or the sigmoid flexure and rectum. They are either placed at a considerable distance from each other, in which case they are distinct and large, or they are small, numerous and in clusters, both these appearances are sometimes observed in the same case, in different parts of the intestine. They very frequently present thickened and elevated edges, are raised on a thickened or hardened base, or exhibit exuberant fleshy granulations on their surface, and in some cases the edges are dark, and the centre presents a sloughy appearance. They are some

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2 times confined to the mucous coat, at other times they extend deeper and occasionally perforate all the coats of the intestine. Baker mentions the case of a seaman who had laboured under this disease for twenty one days, and on dissection he found the caecum distended with air, the transverse arch distended and perforated with four or five holes, by which a brown gelid matter mixed with feces, had escaped into the cavity of the abdomen.

Ulcers were mentioned as a cause of dysentery by Hippocrates, they are also noticed by Galen and Jelsus.

Sir George Ballingall remarks that he has seen parts of the villous coat present the pustular appearance which has been so aptly compared to small pox. Dr Hunter among other marked appearances mentions tubercles on the internal coat of the gut which are at first small round of a reddish colour, and not more than one tenth of an inch in diameter, becoming paler as they enlarge. In this stage a small crack is observed on the top, with a slight depression which gradually increases. The pustule, for though it contains no pus, I do not know any name more expressive of its appearance, is seated under the villous

1 De Dysenteria Epidemica in Sandeput. Thesaurus & Wallerston's letter to Baker - p. 381

2 Op. Cit. p. 63 - 3. ut supra p. 230 & 231 -

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coat, between that and the muscular coat." These tubercles contain a cheesy like substance, as the opening on them enlarges the edges become prominent, and the base rough and scabrous. They are sometimes separate, at other times they occur in clusters, becoming confluent and thus forming a rough unequal, ulcerated surface, with an indurated base. The ulcer is generally oblong, with the longest diameter placed across the intestine. The mucous membrane between the ulcers is frequently red and turgid, and has a pulpy appearance. These tubercles in the intestines have ~~been~~ been noticed by several other authors as Marshall, King, Glegg, Baker, Mandro &c. They are the enlarged indurated and hypertrophied muciparous follicles, produced by inflammatory action.

Fluids preserving the natural colour are sometimes met with in the upper part of the large intestine, but scybala are rarely observed.

The appendix vermiformis is sometimes showing marks of disease externally, is sometimes found contracted, ulcerated internally and in some cases almost sphacelated.

The internal surface of the large intestines, is described by Mr. Annesley as presenting every variety of colour. In some instances nearly the whole of the mucous surface of the caecum and colon present a greenish hue and every depth of colour from a pale grass green to an

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alone, in some parts patches of a fine rose colour are interspersed with the deep shades of green, in the situation of the former the mucous membrane has not become disorganised, while in that which presents the green colour it is passing to a state of gangrene. These different colours as well as the other morbid appearances are well represented in the plates in Mr. Cunnings's admirable work on the Diseases of India to which we have already frequently referred.

The morbid condition in which the colon and rectum are sometimes found, may either be partial and confined to the internal surface, or its whole substance may be soft presenting a livid colour and be completely morbid.

Hunter states that he never saw an abrasion or mortification of the villous coat, and he is inclined to consider that the cases mentioned by King were not in reality of that description, but that the colour was produced by the extravasation ^{of blood} so frequently observed in such cases. It is probable that this mistake has sometimes happened, but it cannot be doubted that gangrene of the mucous coat may take place, and that many such instances have occurred. "Death" says Mr. Marshall, "rarely if ever, occurs among this class of people (Europeans) before a certain degree of gangrene of the villous coat of the large intestines has taken place."

1 ut supra - 2 of ut p 174 -

Morbid Anatomy of Chronic Dysentery

In some instances the inflammation extends from the caecum to the cellular tissue connecting it with the surrounding parts, leading to the formation of an abscess, which some times communicates with the caecum, and in such cases the matter is often discharged during the life of the patient.

The internal coat of the stomach in general presents no particular marks of disease. The small intestines usually contain a quantity of fetid air, but in the acute uncomplicated form of the disease their internal coat, like that of the stomach, does not in general present any particular morbid appearance.

Chapter II

Morbid Anatomy of Chronic Dysentery

The appearances which we have just described belong more especially to the acute form of the disease, and we shall now mention those which are more particularly observed in the bodies of those who die of chronic dysentery.

On laying open the abdomen in such cases, the peritoneum is sometimes found, over a greater or less extent of surface, to be more vascular and thicker than natural, and to exhibit other appearances of inflammatory action, numerous adhesions are also observed between the adjoining portions of the peritoneum, particularly when the ulcers have nearly perforated the coats of the intestine.

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Morbid Anatomy of Chronic Dysentery

The omentum often exhibits the same appearance as those already described, and the intestines are distended with flatus.

Their coats are thickened to a greater or less degree, particularly those of the large intestine, which are also sometimes dark and indurated.

Constrictions of the intestine are among the most frequent marks observed on dissection. They are sometimes few in number while in other cases they are more numerous, it is principally when situated in the rectum that they have attracted attention, but it is important to observe that they frequently occur in other parts of the large intestine. In respects the comparative frequency of these lesions (strictures) in the rectum and colon amongst Europeans in India, we may state our belief that the colon is much oftener affected than the rectum¹

When they exist to a great degree the caecum and small intestines become distended, and their internal surface is often inflamed and ulcerated, in such cases the liver and pancreas are also frequently diseased. In connexion with the contracted and thickened state of the canal, the internal surface of the large intestine presents extensive ulcerations, particularly in the caecum and sigmoid flexure.

When chronic dysentery follows an attack of the acide disease the morbid appearances are most frequently confined to the large intestines. But in certain circumstances, as when it is complicated with disease of the Liver the small intestines

Morbid Anatomy of the Dysentery of Temperate Climates

are also found diseased, the mucous coat is thickened presents marks of inflammatory action & is sometimes ulcerated. The Mesentery is often observed to be more vascular than usual, and the glands are frequently observed to be enlarged hardened and obstructed, particularly in the situations corresponding to large Ulcers.

Chapter III

Morbid Anatomy of the Dysentery of Temperate Climates

Dysentery is seldom a very fatal disease in this country; but the morbid appearances found upon dissection resemble more or less those which we have described above. Dr Cheyne who had such an extensive opportunity of observing these appearances in the Dysentery that occurred in Ireland found the intestines in some cases greatly distended; he mentions one in which the small intestines were seven and the large intestines nine inches in circumference & at 14 inches from the anus an extensive hard structure was found thro which the finger could not be passed, the coats of the intestines were nearly an inch in thickness which was principally occasioned by a dense white fibrous matter situated between the peritoneal and muscular coat. The inflammation of the mucous membrane was sometimes very extensive being principally observed in the large intestines, but for 3 or 4 inches above the sphincter it was occasionally pretty sound; in some cases it was abraded or ulcerated, in some coagulable lymph was

Morbid anatomy of complicated Dysentery - The Liver

seen upon it; in many dissections numerous holes were observed particularly in the lower part of the Colon, & the Rectum of sufficient size to admit the head of a pin regularly round, generally vascular in the centre with elevated edges.

"These Apertures," he observes "were at first supposed to be small ulcers, but dissections made after dysentery had attained an advanced stage left little room for doubting that they were the ducts of the mucous glands enlarged and in the advanced stages either ulcerated or connected with a cyst formed by the lining membrane of the duct, which secreted a gelatinous matter whereof these cavities were often full."

In the dissection of those who Died of Dysentery in Holland Sir John Pringle observed visceral adhesions also inflammation, ulceration, mortification or abrasion in the villous coat.

Chapter IV

Morbid Anatomy of complicated Dysentery

Having described the appearances observed in the intestines we shall now mention those which are seen in the collateral viscera as they occur in the complicated forms of dysentery - The Liver in many cases of Dysentery is found little or not at all diseased while in other instances it has undergone various morbid changes, particularly in that form of complication which we have described under the title of Hepatic Dysentery.

Morbid appearances in the Liver

Abscess in this organ is not a very frequent occurrence, but it is sometimes congested or inflamed, or merely altered in colour without any structural derangement; in some instances it is increased in others diminished in size, & in both these conditions it is often indurated or otherwise disorganized. Mr Sargassow¹ in speaking of dysentery as it occurred in Holland, the West Indies, Spain, & Portugal describes this organ as being "blackish hard and wasted" D'Cheyne² found abscesses in two cases & great sanguineous congestion in many. And in twelve cases which also occurred in Dublin, the dissections of which are recorded by D'O'Brien³ the liver was diseased in six; but in writing on this subject on a former occasion he remarks that the liver was generally unaffected.

The following Table from Mr Marshall's "Medical Topography" of Ceylon shows the number of cases in which he found the Liver affected and the nature of the affection.

	Dysentery	Dysentery combined with					Morbid Structure of
		Abscess of Liver	Induration of Liver	Morbid Softness of Liver	Enlargement of Liver	Altered Hypertrophy of Liver	
Europeans	140	42	3	4	2	1	1
N ^o inspected	124	42	3	4	2	1	1
Malays	28	1	"	"	"	"	"
N ^o inspected	16	1	"	"	"	"	"
Caffries	15	1	"	"	"	"	"
N ^o inspected	12	1	"	"	"	"	"
Indians	52	4	2	"	"	"	"
N ^o inspected	34	4	2	"	"	"	"

1 Ut supra - p. 181 - 2 Op. Cit. - p. 86 - 3 Trans. of King's & Queens College of Physicians Vol. V p. 249 - 4 On acute & chronic Dys. of Ireland.

Morbid appearances in the Gall bladder - Small Intestine - Spleen - Pancreas & Mesenteric Gls

Thickening of the coats of the gall bladder, with an accumulation in it of viscid thick bile is sometimes observed. Both in Hepatic dysentery, and also when the flux supervenes upon, or occurs during the convalescence from fever, the small intestines are generally found to have participated in the diseased action, particularly when the morbid state of the liver has been of a chronic character, in such circumstances they frequently present constrictions which are sometimes limited, and at others occupy a considerable portion of the canal, along with these appearances they frequently show marks of inflammation, and ulceration is also observed particularly at the lower part of the ileum.

When dysentery occurs in connexion with fever, it would appear that in some cases the inflammation in the small intestines had subsided soon after the large became affected, for while the latter presents marks of high inflammation and ulceration or even sphaculation, the former exhibits small ulcers some of which have cicatrized and others have a pale appearance, without any particular signs of increased vascularity in the parts situated between them.

The Spleen and Pancreas are sometimes found diseased, the former most commonly when the disease occurs in connexion with periodic fevers, the latter in some cases becomes enlarged and proper on the common duct.

The mesenteric glands particularly those in the

Morbid appearances in the Peritoneum-Bladder and Scorbatic Dysentery mesocolon, are frequently found enlarged, in some cases inflamed and more rarely in a state of suppuration. These appearances are principally observed in those who have suffered from chronic dysentery, or who have had repeated attacks of the disease.

In the complicated forms of dysentery, and when the inflammation has extended to the serous covering of the bowels, the mesentery and mesocolon are more vascular than usual, and even although the ulcerations have not entirely perforated the coats of the intestines coagulable Lymph has been found on their surface.

The peritoneal coat and neck of the bladder, in some cases participate in the inflammatory action, and the prostate gland is often somewhat enlarged.

The appearances generally observed on examining the bodies of those who have died of Scorbatic Dysentery are, in some cases a contracted state of the bowels, their coats being thickened and having a doughy feel, but more commonly they are found distended with flatus which has a very offensive odour. The vital cohesion of all the textures of the body is more or less lost, and the coats of the intestines are easily torn. Their internal surface presents a livid purple or dark

Morbid appearances in Scorbutic Dysentery,
 appearance, with effusion of blood in the submucous
 tissue, forming ecchymosed patches, and excoriations,
 ulceration and sphacelation of the caecum, colon and
 rectum. The villous coat covering the ecchymosed
 patches may easily be rubbed off, and the ulcers present
 a foul and dark appearance.

If the patient has passed large quantities of
 blood by stool, the liver is often found soft and
 pale, at other times it is soft, spongy and large.

The spleen sometimes appears almost semifluid
 or sphacelated.

A dark and bloody serum is often found in the
 cavity of the pericardium and pleura. The heart
 itself is frequently soft and flaccid, and if the dissection
 is made soon after death, the blood in it and the large
 vessels is semifluid, of a very loose texture, and black
 colour.

The lungs are frequently found congested, and
 the bronchial membranes dark and ecchymosed.

Ecchymosis is also sometimes seen on the inter-
 nal surface of the bladder.

Predisposing Causes

Part Third

Causes of Dysentery

Chapter I.

Predisposing Causes

The frequent occurrence of dysentery in Europeans compared with natives in India, seems to depend upon the less tendency shown in the latter to disorder in the functions of the liver and bowels, their not being so much exposed to the exciting causes from their mode of living, peculiarity of constitution and being less liable to inflammatory affections.

There are various circumstances which render Europeans more liable to be attacked with dysentery in warm climates, particularly those who have recently arrived.

The first which is worthy of mention is a plethoric state of the vascular system which is not unfrequently produced by the want of exercise, together with a generous and stimulating diet employed on the passage, this is more particularly observed in soldiers and seapengers for in sailors it is much prevented by their active employments.

All circumstances which favour the formation or accumulation of morbid secretions in the biliary

Predisposing Causes

apparatus or intestines, will also act as predisposing causes, and passengers on a voyage are often subject to collections of fecal matter in the large bowel which produce irritation in them, or render them more liable to be irritated by when exposed to the exciting causes.

"If again", says Dr Hamilton, "we consider that the exhalations made into the cavity of the intestines are excrementitious, and will if retained beyond the usual period, undergo changes, and acquire injurious acrimony; and if moreover we advert to the connexion by sympathy which many of the organs of the complicated animal frame have with the stomach and intestines, we cannot but recognise the great influence which these must possess over the comfort, the health, and the life of the individual."

The passage now quoted refers to temperate climates, and we need hardly remark how much more influential these circumstances will prove in persons placed in the situation we are now considering, and where so many other causes of disease exist.

We have already mentioned in a former part of this Essay, that the presence of worms in

Predisposing Causes

The intestinal canal has been supposed to produce a tendency to this disease, and although by causing irritation they may have this effect, yet from the frequency of their occurrence, particularly among natives in warm climates, in whom dysentery is comparatively seldom observed, it is probable that their influence is not very great. Pringle remarks, that "warms are not to be considered as a cause of the flux, but as concurring with other causes to make it worse."

High ranges of temperature act as predisposing causes, and hence hot climates and seasons, by producing an increase and disorder of the biliary and other secretions and excretions, particularly if from any cause the circulation is determined towards the abdominal viscera.

The inhabitants of a colder climate being more disposed to inflammatory affections, especially on their first arrival in a warmer, may also partly account for the frequency with which dysentery attacks persons who have recently landed.

Another and doubtless a powerful cause which predisposes the body to this, as well as other diseases, is the mode of living too frequently adopted by Europeans on their arrival in Inter-Tropical

Predisposing Causes

Climates. Some have considered it necessary for Europeans in warm climates to adopt a full and liberal diet of animal food, from observing that those of the natives of India, who subsist partly on animal and partly on vegetable diet are stronger and more able to sustain attacks of acute diseases, than those who subsist more exclusively on vegetables, but the difference which exists in the temperament and conformation of the natives when compared with Europeans, together with other considerations, show that this opinion has been carried to too great an extreme, and even in those tribes amongst whom animal food is most used, it is seldom carried to the same extent as among Europeans. For those who conform to the luxurious habits and customs in India, generally partake of animal food at three meals in a day, to the plethoric state of the vascular system which this tends to produce, is added, at least at two of these meals, the irritation and excitement of the stomach and liver, caused by highly seasoned soups, spiced curries and sauces, and all these are not unfrequently conjoined with other variously prepared dishes, which pamper the appetite, and thus

Predisposing Causes

a greater quantity of food is received into the stomach than can be digested, or than the system requires. The evil effects resulting from this mode of living are often aggravated by the too liberal use of vinous and fermented liquors.

These causes may in some instances be sufficient to excite the disease, but they can rarely fail to render the body more susceptible of the influence of other exciting causes.

Many of the circumstances now mentioned may not be within the reach of soldiers and sailors, but they are exposed to others not less influential. They are unable to provide themselves with those expensive contrivances and conveniences which counteract the effects of the tropical heat. With regard to their diet their rations are less numerous, but their drink is more spirituous, and in it they not unfrequently fully indulge.

The soldier "is often exposed to the raw morning air loaded with the exhalations from the soil, before the sun has rarified them, and rendered them comparatively innocuous, with a scanty or almost no breakfast, and upon a nearly empty stomach receives his allowance of two large glasses of undiluted ardent." (Annesley)

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Predisposing Causes

Exercise is also frequently too much neglected in warm climates except by those whom necessity compels to employ it.

An exhausted condition of the constitution in general and of the intestinal canal in particular also acts as a predisposing cause, as is shown by the liability of persons in this condition to be attacked with the disease, in all climates and in most epidemics, from the frequency of its occurrence in persons recovering from fevers and other disorders, and in soldiers after long marches.

To show the disposition of Europeans to be affected with dysentery in tropical climates, Mr. Bampf-
-fuld mentions the case of a man who on taking cold in England was generally affected with coryza and catarrh, and when he caught cold in India, always sustained an attack of dysentery, and died after having had ten different attacks in the space of two years.

The age of the individual has a considerable influence in rendering Europeans more liable to be affected by the exciting causes of intertropical diseases. The impropriety of selecting young recruits for the Indian service was ably and fully

Exciting Causes

illustrated by Sir George Wallingall some time ago and since then has been completely confirmed by the experience of other writers.

A debilitated state of the digestive and assimilating organs, resulting from a want of whole some and nutritious diet often acts as a predisposing cause among the Natives of India.

The comparative infrequency of dysentery in the female compared with the male sex, which has been noticed by so many Authors in different climates, can only be explained by their being less exposed to the predisposing and exciting causes of this disease.

In Temperate countries, dysentery, as we have already mentioned is more prevalent during the autumnal months than at any other season of the year, the relaxing effect of the previous summer heat rendering the body more liable to be affected by the ordinary exciting causes which we shall now proceed to mention.

Chapter II

Exciting Causes

Knowledge of the immediate causes of any disease when properly understood & considered is often of the utmost importance in pointing out the

Exciting Causes

method of cure. Sydenham remarked that when possessed of such knowledge, along with a correct history of the disease, he was never at a loss for a suitable remedy to prescribe, & that he always proceeded cautiously, until he had ascertained these circumstances. Many causes have been mentioned as more immediately leading to the production of this disease, such as Exposure to vicissitudes of temperature or of climate, particularly to night dews & to cold & moisture, by these means the circulating fluids are determined towards the internal organs, especially when they act either during or immediately after the body has been greatly heated. The operation of these causes is often much promoted, by others to which armies on active service are not unfrequently exposed, as wearing damp or wet clothing, & sleeping on the ground in the open air, without sufficient protection.

Some Authors consider suppressed perspiration to be the most common cause, such W Johnson thinks "I have come nearer to but stopped far, very far short of the mark, and he considers that the biliary secretion as well as the perspiration is "universally disordered from the very outset." Here he evinces are the first links in the Medical chain which connects the remote

Exciting Causes

causes with the essential form of the disease: Whocver can treat these by restoring these two functions to their natural state I care not by what means or medicine, he will cure or rather prevent, the disease; et erit mihi Magnus Apollo."

A very frequent cause of this disease is the excessive use of intoxicating liquors, there act not only by their injurious effect produced directly on the digestive organs & functions of the Liver, but also by the irregularities & exposures to which they gave rise.

Improper food & drink may act either by rendering the body more liable to be affected with Dysentery when exposed to the endemic causes, which in other circumstances might have produced some other disease, as Fever, or by directly exciting this disease. The flesh of diseased animals, Meat which has been too long kept & spiced are said to have been productive of this disease, also the use of brackish water, & more particularly water impregnated with decomposing animal and vegetable substances. The impurity of the water, is said to be the cause of Dysentery among the natives of the Gold Coast of Africa. A well marked example of its influence occurred in the old barracks at Loth, where the disease was raging with great violence among the Troops, when Mr Bell to whom the care of the sick

Exciting Causes

was intrusted in the absence of the regimental surgeon, suspected that its prevalence was owing to the water with which they were supplied being contaminated in passing thro' the city, by an influx from the public sewers & likewise rendered brackish by an admixture with the tide; by prohibiting its use and obtaining a supply of water from a Spring the disease very shortly disappeared. The presence of certain animalculi in the water has also been considered as a cause of this disease, and the *Acanus Dysenterice* was so named by Linnæus' from his supposing that its presence in the water of which Rølandes had drunk, was the cause of his being attacked with Dysentery; Derangement of the Biliary secretion may also in some cases act as an exciting cause. The use of too much of unripe fruit has been considered by some authors as a frequent cause, while others do not attach much importance to it. Upon this subject Pringle observes, that Dysentery prevails where the Patients have no fruit within reach & has been observed by him to cease about the period of Grape gathering the fruit being abundant and eaten plentifully by the soldiers. Baker further remarks "*Iui fructus aut æstivos aut autumnales immodice assumpserant, vel nullâ tentabantur Dysenteria, vel si tentarentur levissimè aegrotabant*"³

1 Amer. Acad. Vol V p. 82 et alibi 2 Op. cit p 89. 3 De Catarrho et Dysent^æ

Exciting Causes

Dysentery often becomes very prevalent where persons are exposed to the exhalations from the banks of lakes rivers & canals, or from Marshes, and the emanations proceeding from decayed animal vegetable substances "In the last campaign" says Sir J. Pringle "though the heats were great, yet they were the cause of little sickness, # till the Troops were encamped in the Marshes, where a considerable degree of putrefaction & moisture being joined, the ardent remittent & intermittent fevers, & fluxes, were only the remoter effects of that heat"

out of 13,900 cases of Dysentery in Bengal W. Annesly found that only 2400 occurred during the cold season 11,500 in the hot & dry & 7000 during the hot and humid season -

The influence of the Moon in producing this disease has been contended for by D. Balfour² & others, but there can be little doubt that the prevalence of Dysentery which they have observed at New & full Moon is not produced by any direct influence, but indirectly by the influence of that planet over the changes of the Atmosphere which usually take place at those times, & thus W. Campbell³ observes that from a Register which he kept of all the Diseases that occurred in India, during 5 years, having carefully noted the various periods of the Moon at which they were induced

1 ut supra p. 80 2 On Sol-Lunar Influence 3 Op cit. p. 84

Exciting Causes

together with the different conditions of the weather. He arrived at the conclusion that Dysentery & all acute diseases, occurred most frequently at new & full Moon, provided fresh gales of wind & rain took place at those periods, but if neither these nor any other unhealthy changes of the air or weather were present, nothing particular was observed as to the occurrence of these diseases.

It is worthy of remark that the Mortality from Dysentery has been rapidly decreasing in London for the last 150 years. Thus during a period of 25 years from 1667 to 1692 the annual mortality amounted to above 2000, while the bills of mortality for the 18th Century show the decrease which has taken place. This is illustrated by the following table copied from Dr. A. S. Thomson's inaugural dissertation on the Influence of Climate on Health & Mortality.

From 1700 to 1710 there were 1070 deaths annually from Dysentery

1710 - 1720	770	do	do
1720 - 1730	700	do	do
1730 - 1740	350	do	do
1740 - 1750	150	do	do
1750 - 1760	110	do	do
1760 - 1770	80	do	do
1770 - 1780	70	do	do
1780 - 1790	40	do	do
1790 - 1800	20	do	do

Exciting Causes - Contagion

This table is introduced here as it shows the diminution in the Mortality occurring along with the removal of the cause, from which the Dysentery has been supposed to have arisen, viz, telluric Miasmata, & we are informed by Sydenham and Willis that Remittent Intermittent fevers were also very prevalent & fatal at that time. It is likewise probable that Dysentery if not produced was aggravated by the mode of living the confined & ill aired abodes as well as filthy habits, & Heberden considers that the diminution in the prevalence of the disease is owing to greater cleanliness and more perfect ventilation.

Many of the causes now mentioned may produce Dysentery in its endemic form, but in addition to these there would seem to be some peculiar influence in the constitution of the atmosphere, which gives rise to the epidemic manifestation of the disease, & the different features which it sometimes presents in such circumstances; but what this peculiar condition of the air is does not seem in all cases to have been satisfactorily established, it has been referred to certain noxious exhalations floating in the air, & to great humidity and also, like many other things of which we know little, to a peculiar electrical condition of the atmosphere.

Contagion - It has been much disputed whether Dysentery is or is not propagated by contagion. Sydenham, Blagden, Alcock, & Aitken make no allusion to it as a cause of this Disease

Exciting Causes - Contagion ⁹⁵

but we have a numerous list of authors, deservedly of no small reputation, of whom the following are a few, viz, Bontoux, Degner, Clarke, Pringle, Balfour, Whistler, Cullen, &c who contend strongly for its contagious nature. While on the other hand we have a no less numerous list of authors of equal celebrity who maintain an opposite opinion, of the latter we may mention Willis, Stoll, Mosley, Sir G. Balfour, Johnson, Bampffield Baker, Denton, &c

D. Cullen in his First Lines states distinctly that "the disease is always contagious, & the principal arguments in support of this opinion which are to be gathered from the writings of others are, that in Towns it is said to be more prevalent in certain localities than in others, Degner states that he was able to trace it from one house in Meniguen, over a whole street & from thence over the rest of the Town. It has also been observed to attack persons at the same time in succession in Camps, Towns, or large buildings, & Nurses & other attendants in Hospitals have sometimes been attacked by the disease. Some authors have considered that it was propagated by persons using the same water closet & night-chair as that employed by dysenteric patients & Shipland & others say they have known it conveyed by the pipe of an Esmarch syringe.

Many passages might be quoted from the authors mentioned above as well as from many others who have

* Relapses are not uncommon in persons who have sustained an attack of this disease, particularly if they remain exposed to the endemic or other exciting causes. Slight errors in diet or exposure to cold, and noxious emanations will also not infrequently reproduce the disease particularly when it has been complicated with affections of the Liver or Spleen or with Intermittent Fevers, and when it had passed into the chronic form, before the patient recovered.

Exciting Causes - Contagion

never met with Dysentery communicated in any of the ways now mentioned, but this appears unnecessary.

The great difference of opinion which exists on this subject, seems in no small degree to be owing to the circumstance of not having distinguished the different forms of this disease, and after examining the accounts given by different Authors we believe that simple Dysentery as well as that combined with Intermittent & Remittent Fevers is not contagious; but that under certain circumstances, it may assume that Character, as when the sick are crowded together in Hospitals, when ventilation & cleanliness are not sufficiently attended to & the Evacuations not speedily removed or when it is combined with typhoid or Malignant Fevers. This was observed by Dr Phegane to be the case in the Dysentery that occurred in Dublin; it is also the opinion of other recent authors, & was maintained at some length in a work entitled, "Observations on simple Dysentery & its Combinations" published many years ago by Dr Hartley - on the whole I think it will be found that many if not all of those Authors, who so strenuously assert the contagious nature of Dysentery, have described the disease as they saw it complicated under the circumstances above mentioned.*

Causes of Scorbatic Dysentery

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Chapter - III

Causes of Scorbatic Dysentery

It would be foreign to the object of the present essay to enter at any length into the causes of Scurvy, we shall however conclude this part of our subject, by making a few remarks on those which give rise to the scorbatic form of Dysentery.

This complication arises from the concurrence of the causes which give rise to Dysentery, with those which produce, or have already produced Scurvy.

Persons who have suffered from Dysentery are very liable to be affected with this complication when exposed to the causes of Scurvy; of these we may mention deficient or unwholesome diet; the use of food which does not afford sufficient nutriment; the employment of salt provisions for some time without a sufficient supply of vegetables or farinaceous substances, particularly the employment under such circumstances of salted pork. The use of a too fluid & much debilitated diet or of bad & stagnant water, the exposure to concentrated exhalations from marshes, or night fogs especially near the sea or banks of rivers, lakes, Debility produced in any way principally from previous disease, too much fatigue & an intertropical climate. Nostalgia, disappointment, anxiety of mind & depression of spirits.

Causes of Scorbutic Dysentery

These causes lower the Energy of the Nervous and vital power, vitiate the circulating & secreted fluids & ultimately deteriorate the vital properties of the soft solids-

Statistics

Part Fourth

Statistics

We need not here enlarge on the importance of Medical Statistics; the increasing share of attention which they are every day gaining sufficiently shows the estimation in which they are held and none can be more important & interesting than those of our army particularly on foreign stations -

The plan which we propose to follow is in the first place to compare different classes of disease with each other from which we shall draw the relative proportion of those of the Stomach and Bowels to the whole; we shall then compare the different diseases of the Stomach & Bowels with each other and next calculate the proportion which Dysentery bears to the whole. By following this plan in the different stations as far as time & materials will permit we hope to present a complete set of tables shewing the prevalence & fatality of one of the most important classes of diseases to which the body is liable. Following the above we shall give in one Table a general view of the prevalence and

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Statistics

fatality of Dysentery alone in different parts
of the world

All these tables will refer to white Troops
and we need hardly add that they have
been compiled principally from Major Tull
och's Statistical Reports of the Army

Statistics — United Kingdom
Table A I

101

Showing the admissions into Hospital and deaths in different classes of diseases among 44,611 Dragoon Guards and Dragoons serving in the United Kingdom from 1st January 1830 to 31st March 1834.

Classes of Diseases	Admitted	Died	Deaths per 1000 Troops
Fevers	3,327	60	1.34
Eruptive Fevers	114	6	0.13
Diseases of the Lungs	6,624	345	4.43
Diseases of the Liver	337	19	0.43
Dis- of the Stomach & Bowels	4,193	32	0.42
Epidemic Cholera	141	54	1.21
Diseases of the Brain	293	32	0.42
Dropsies	55	14	0.31
Rheumatic Affections	2,244	6	0.13
Venerial Affections	8,042	2	0.04
Abscesses and Ulcers	5,950	4	0.16
Wounds and Injuries	5,619	12	0.29
Furuncles	339	..	..
Diseases of the Eyes	864	..	..
Diseases of the Skin	4,311	..	..
All other Diseases	1,942	38	0.85
Total	44,614	624	

From this table we learn that the proportion of the diseases of the Stomach and bowels to the total number of cases admitted is 10.12 per 1000 and of deaths 51.03 per 1000

Statistics — United Kingdom
Table A II

102

Showing the proportion which the diseases of the Stomach and Bowels bear to each other.

Diseases of Stomach & Bowels	Admitted	Died	Deaths per 1000 adm.
Peritonitis	11	..	..
Gastritis	19	1	52.63
Enteritis	34	4	189.19
Hæmatemesis	10	1	100.00
Dysentery Acute	49	4	81.63
Dysentery Chronic	14	3	146.44
Diarrhoea	2852	10	3.51
Catarrhis	155	..	..
Falica	529	..	..
Dyspepsia	248	3	12.10
Cholera Morbus	266	3	11.26
Total	4193	32	

Table A III

Showing the proportion of cases of Acute and Chronic dysentery admitted and of deaths from these diseases per 1000 of all the diseases of the Stomach and Bowels.

	Admitted	Died
Total number of cases of Dis. of Stomach & Bowels	4193	32
Acute Dysentery per 1000	11.69	125.00
Chronic Dysentery per 1000	4.05	43.75
Total	15.74	218.75

Table B I

Showing the admissions into Hospital and deaths in different Classes of diseases among 60,269 Troops serving in Gibraltar from 1818 to 1836 inclusive.

Classes of Diseases	Admitted	Dead	Deaths per 1000 Troops
Fevers	8,165	140	2.32
Epidemic Fever	4,522	423	4.02
Eruptive Fevers	54	1	0.02
Diseases of the Lungs	8,484	318	5.28
Diseases of the Liver	459	22	0.37
Dis- of Stomach & Bowels	11,202	128	2.12
Epidemic Cholera	459	131	2.14
Diseases of the Brain	341	52	0.86
Dropsies	42	16	0.24
Rheumatic Affections	2,309	8	0.13
Venerical Affections	3,450	1	0.02
Abscesses & Ulcers	6,131	9	0.15
Wounds & Injuries	5,372	24	0.41
Diseases of the Eyes	5,862	..	..
Diseases of the Skin	903	..	..
Huntings	938	..	..
All other Diseases	2,141	38	0.63
Total	58,224	1,291	

The above Table shows the proportion of the diseases of the Stomach & Bowels to the total number of cases admitted to be 192.38 per 1000 and of deaths 99.15 per 1000.

Statistics—Gibraltar

Table BII

104

Showing the proportion which the diseases of the Stomach and Bowels bear to each other

Diseases of Stomach & Bowels	Adm.	Died	Deaths per 1000 Adm.
Peritonitis	13	5	386.62
Gastritis	20	5	250.00
Enteritis	45	12	266.64
Emetemesis	4	1	142.86
Dysentery Acute	2594	49	18.89
Dysentery Chronic	59	15	254.24
Dyspepsia	304	1	3.29
Colica	993	2	2.01
Diarrhoea	5,600	31	5.45
Obstipation	334	..	..
Cholera Morbus	1230	4	5.69
Total	11202	128	

Table BIII

Showing the proportion of cases of acute and chronic dysentery admitted and of deaths from these diseases per 1000 of all the diseases of the Stomach & Bowels

	Admitted	Died
Total number of cases of Dis. of Stom & Bowels	11,202	128
Acute Dysentery per 1000	231.54	382.81
Chronic Dysentery per 1000	5.26	114.18
Total	236.83	499.99

Statistics — Malta
Table c I

Showing the admissions into Hospital and Deaths
in different classes of diseases among 40,826 Troops
serving at Malta from 1817 to 1836 inclusive

Classes of Diseases	Admitted	Died	Deaths per 1000 Troops
Fevers	4,048	118	2.89
Eruptive Fevers	34	3	0.07
Diseases of the Lungs	4,883	245	6.00
Diseases of the Liver	854	44	1.15
Dis- of the Stomach & Bowels	6,314	147	3.60
Diseases of the Brain	236	30	0.73
Dropsies	40	16	0.39
Rheumatic affections	1,383	9	0.22
Venerial affections	4,336	2	0.05
Ulcers and Abscess	6,013	4	0.14
Wounds & Injuries	4,105	23	0.56
Finished	1,628	..	..
Diseases of the Eyes	4,162	..	..
Diseases of the Skin	858	..	..
All other Diseases	1,649	18	0.49
Total	46,639	665	

From this table we learn that the proportion of
the diseases of the Stomach and bowels to the total
number of cases admitted is 135.44 per 1000 and of
Deaths 221.05 per 1000

Statistics — Malta

Table C II

106

Showing the proportion which the diseases of the Stomach and bowels bear to each other

Diseases of Stomach & Bowels	Admitted	Died	Deaths per 1000 Admitted
Leitomyelitis	21	4	190.48
Gastritis	10	1	100.00
Enteritis	68	7	102.94
Hemorrhages	9	2	222.22
Dysentery Acute	1303	78	59.86
Dysentery Chronic	98	16	163.27
Dyspepsia	164	1	6.10
Colica	508	2	3.94
Obstipation	659	1	1.55
Cholera Morbus	454	5	11.01
Diarrhoea	3,023	30	9.92
Total	6317	147	

Table C III

Showing the proportion of cases of Acute and Chronic dysentery admitted and of Deaths from these diseases per 1000 of all the diseases of the Stomach & Bowels

	Adm.	Died
Total number of cases of Dis. of Stomach & Bowels	6317	147
Acute Dysentery per 1000	206.27	530.61
Chronic Dysentery per 1000	15.51	108.84
Total	221.78	639.45

Statistics - Ionian Islands

Table DI

Showing the admissions into Hospital and Deaths in different classes of diseases among 40,293 Troops serving in the Ionian Islands from 1817 to 1836 inclusive

Classes of Diseases	Admitted	Died	Deaths per 1000 Troops
Fevers	32,160	884	12.62
Eruptive Fevers	58	2	0.03
Diseases of the Lungs	6,313	320	4.69
Diseases of the Liver	1,168	56	0.80
Diseases of the St & bowels	10,969	234	3.34
Diseases of the Brain	693	69	0.98
Dropsies	183	43	0.61
Rheumatic Affections	2,428	4	0.10
Venereal Affections	4,660	3	0.04
Abscess and Ulcers	8,199	8	0.11
Wounds and Injuries	8,442	28	0.40
Starvation	2,614	1	0.01
Diseases of the Eyes	2,903	..	..
Diseases of the Skin	1,241	1	0.01
All other Diseases	2,404	49	0.40
Total	84,438	1,711	

The above table shows the proportion of the diseases of the stomach and bowels to the total number of cases admitted to be 129.91 per 1000 and of deaths 138.52 per 1000

Statistics - Ionian Islands

Table DJI

Showing the proportion which the diseases of the Stomach and Bowels bear to each other

Diseases of Stomach & Bowels	Admitted	Died	Deaths per 1000 Adm.
Peritonitis	20	5	250.00
Gastritis	34	1	29.41
Enteritis	201	22	109.45
Thrombomycosis	24	2	84.04
Dysentery Acute	3461	116	33.52
Dysentery Chronic	304	58	188.93
Dyspepsia	189	2	10.58
Golica	1258	3	2.38
Diarrhoea	3896	15	3.85
Obstipation	290	"	"
Cholera Morbus	1286	13	10.11
Total	10969	234	

Table DJII

Showing the proportion of cases of acute and chronic dysentery admitted, and of deaths from these diseases per 1000 of all the diseases of the Stomach & bowels

	Admitted	Died
Total number of cases of Dis- of Stomach & Bowels	10969	234
Acute Dysentery per 1000	315.83	489.45
Chronic Dysentery per 1000	24.99	244.73
Total	343.52	734.18

Statistics - Bermudas

Table E, I

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Showing the admissions into Hospital and Deaths in different classes of diseases among 11,721 Troops serving in the Bermudas from 1817 to 1836 inclusive.

Classes of Diseases	Admitted	and	Deaths per 1000 Troops
Fevers	1591	129	11.01
Eruptive Fevers	2	..	..
Diseases of the Lungs	1173	102	8.70
Diseases of the Liver	168	6	0.51
Diseases of Stomach & Bowels	4,865	62	5.29
Diseases of the Brain	199	24	2.05
Dropsies	84	4	0.60
Rheumatic Affections	390	..	..
Neurical Affections	461	..	..
Abscesses and Ulcers	2239	..	..
Wounds and Injuries	1583	4	0.34
Lunatic	685	..	..
Diseases of the Eyes	1164	..	..
Diseases of the Skin	45	..	..
All Other Diseases	344	.4	0.34
Total	15,356	338	

The above Table shows the proportion of the diseases of the stomach and bowels to the total number of cases admitted to be 316.81 per 1000 and of deaths 183.43 per 1000.

Statistics — Bermudas

Table E II

Showing the proportion which the diseases of the Stomach and Bowels bear to each other.

Diseases of the Stomach & Bowels	Admitted	Died	Deaths per 1000 Admitted
Peritonitis	3	2	66.66
Gastritis	213	4	18.83
Enteritis	33	3	90.91
Hæmatemesis	10	2	200.00
Dysentery Acute	1712	30	17.52
Dysentery Chronic	39	6	153.85
Dyspepsia	44	..	..
Galica	138	1	7.25
Diarrhoea	2251	8	3.55
Obstipation	206	..	..
Cholera morbus	385	3	7.79
Total	4865	62	12.72

Table E III

Showing the proportion of cases of acute and chronic dysentery admitted and of deaths from these diseases per 1000 of all the diseases of the Stomach and Bowels.

	Admitted	Died
Total number of cases of Dis. of Stomach & Bowels	4,865	62
Acute Dysentery per 1000	351.90	148.384
Chronic Dysentery per 1000	8.02	26.44
Total	359.92	580.64

Table F I

Showing the admissions into Hospital and Deaths in different Classes of diseases among 64,280 Troops serving in Canada from 1814 to 1836 inclusive.

Classes of Diseases	Admitted	Died	Deaths per 1000 Troops
Fevers	13044	147	2.29
Eruptive Fevers	102	10	0.16
Diseases of the Lungs	9061	411	6.39
Diseases of the Liver	488	12	0.19
Diseases of the Stom & Bowels	9480	84	1.31
Epidemic Cholera	356	127	1.98
Diseases of the Brain	822	72	1.12
Dropsies	128	23	0.36
Rheumatic Affections	2427	3	0.05
Venerial Affections	6063	1	0.02
Abscess and Ulcers	6624	10	0.16
Wounds & Injuries	9904	42	0.65
Runned	1981	"	"
Diseases of the Eyes	2771	"	"
Diseases of the Skin	1332	"	"
All other Diseases	2374	40	0.62
Total	66957	982	

From this table we learn that the proportion of the diseases of the stomach and bowels to the total number of cases admitted is 14.58 per 1000 and of Deaths 85.5% per 1000

Table FII

Showing the proportion which the diseases of the stomach and bowels bear to each other

Diseases of the Stomach & Bowels	Admitted	Died	Deaths per 1000 admitted
Peritonitis	22	4	318.18
Gastritis	23	5	217.39
Enteritis	110	16	145.45
Hematemesis	13	1	76.92
Dysentery Acute & Chronic	435	36	82.98
Dyspepsia	240	1	4.17
Folias	911	3	3.29
Diarrhea	6434	8	1.24
Obstipation	545	1	1.83
Cholera Morbus	447	6	13.42
Total	9480	84	

Table FIII

Showing the proportion of cases of acute and chronic dysentery admitted, and of deaths from these diseases per 1000 of all the diseases of the stomach and bowels

	Admitted	Died
Total number of cases of Dis of Stomach & Bowels	9480	84
Acute and Chronic Dysentery per 1000	44.53	42.854

Statistics—Nova Scotia (and New Brunswick) 113
Table G I

Showing the admissions into Hospital and Deaths in different classes of diseases among 46,442 Troops serving in Nova Scotia and New Brunswick from 1814 to 1836 inclusive

Classes of Diseases	Admitted	Died	Deaths per 1000 Troops
Fevers	3058	41	1.53
Eruptive Fevers	65	1	0.02
Diseases of the Lungs	8532	314	6.46
Diseases of the Liver	384	10	0.22
Dis- of the Stomach & Bowel	1446	64	1.44
Epidemic Cholera	210	59	1.24
Diseases of the Brain	508	56	1.21
Dropsies	48	23	0.50
Rheumatic Affections	1310	3	0.06
Venerical Affections	3645	2	0.04
Abscesses & Ulcers	4626	3	0.06
Wounds & Injuries	6545	20	0.43
Lunished	1345	..	..
Diseases of the Eyes	2241	..	..
Diseases of the Skin	1030	..	..
All other Diseases	1394	20	0.43
Total	36144	649	

From the above table we learn that the proportion of the diseases of the Stomach & Bowels to the total number of cases admitted is 14.61 per 1000 & of Deaths 103.24 per 1000

Statistics— Nova Scotia and New Brunswick¹¹⁴

Table **GI**

Showing the proportion which the diseases of the stomach and bowels bear to each other

Dise of the Stomach & Bowels	Adm	Died	Deaths per 1000 Adm
Leitomyelitis	6	2	333.33
Gastritis	68	6	86.46
Enteritis	43	10	23.25
Haematemesis	17	2	117.65
Dysentery	244	18	73.44
Dyspepsia	156	"	"
Golica	469	4	8.52
Diarrhoea	2189	17	7.76
Obstipation	524	1	1.91
Cholera Morbus	427	4	9.37
Schirrhus Typhi	3	3	1000.00
Total	4,146	67	

Table **GII**

Showing the proportion of cases of dysentery admitted and of deaths from that disease per 1000 of all the diseases of the stomach & bowels.

	Adm	Died
Total number of cases of Dise of Stomach & Bowels	4,146	67
Dysentery per 1000	58.85	268.66

Statistics — Madras

Table HI

Showing the admissions into Hospital and Deaths in different classes of diseases among 127,925 European Troops serving in the Madras Presidency from 1824 to 1838 inclusive Taken from the Report of a Committee of the Statistical Society of London

Classes of Diseases	Admitted	Died	Deaths per 1000 Troops
Fevers	44,658	714	5.57
Eruptive Fevers	"	"	"
Diseases of the Lungs	4,971	299	2.35
Diseases of the Liver	14,875	720	5.62
Diseases of the Stomach & Bowels	40,506	2,252	17.59
Epidemic Cholera	3,510	974	7.60
Diseases of the Brain	1,768	205	0.70
Dropsies	707	138	1.08
Rheumatic Affections	13,045	122	0.95
Veneral Affections	24,574	74	0.57
Ulcers and Ulcers	9,561	28	0.22
Wounds and Injuries	19,088	73	0.57
Purified	"	"	0.16
Diseases of the Eyes	9,249	8	0.06
Diseases of the Skin	"	"	"
All Other Diseases	48,874	614	4.75
Total	235,386	6221	48.63

The above Table shows the proportion of the diseases of the Stomach & Bowels to the total number of cases admitted to be 172.08 and of deaths 361.100 per 1000

Table **HII**

Showing the proportion which the diseases of the Stomach and Bowels bear to each other

Diseases of Stomach & Bowels	Adm	Dead	Deaths per 1000 Admitted
Colic	3,415	10	2.93
Diarrhoea	10,053	199	19.80
Dysentery	24,116	923	79.43
Abdominal Inflammation	2,922	120	41.06
Total	40,506	2,252	

Table **H III**

Showing the proportion of cases of dysentery admitted and of deaths from that disease per 1000 of all the diseases of the stomach and bowels.

	Admitted	Dead
Total number of cases of Dis- of Stomach & Bowels	40,506	2,252
Dysentery per 1000	595.36	409.85

Statistics — Ceylon

Table 11

Showing the admissions into Hospital and Deaths in different classes of diseases among 42,948 White Troops serving in the Island of Ceylon from 1814 to 1836 inclusive

Classes of Diseases	Admitted	Died	Deaths per 1000 Troops
Fevers	20846	1056	21.57
Eruptive Fevers	52	4	0.09
Diseases of the Lungs	3062	175	4.07
Diseases of the Liver	2382	213	4.96
Dis. of the Stomach & Bowels	15368	1039	24.18
Epidemic Cholera	788	257	5.98
Diseases of the Brain	418	66	1.54
Dropsies	1086	89	2.08
Rheumatic Affections	2008	4	0.09
Venerial Affections	3093	2	0.05
Abscesses and Ulcers	10622	18	0.42
Wounds and Injuries	5726	38	0.88
Lunished	1757	"	"
Diseases of the Eyes	2997	"	"
Diseases of the Skin	579	"	"
All other Diseases	1376	39	0.90
Total	72100	3000	

The above table shows the proportion of the diseases of the stomach and bowels to the total number of cases admitted to be 213.15 per 1000 and of deaths 346.33 per 1000

Statistics — Ceylon

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Table I II

Showing the proportion which the diseases of the stomach and bowels bear to each other.

Diseases of the Stomach & Bowels Admitted	Dead	Deaths per 1000 Admitted	
Peritonitis	14	3	214.29
Gastritis	37	7	189.19
Enteritis	94	10	106.38
Hæmatemesis	4	2	500.00
Dysentery Acute	8370	868	103.70
Dysentery Chronic	699	125	178.83
Dyspepsia	293	1	3.41
Galica	2295	4	1.74
Diarrhoea	2649	6	2.27
Obstipation	504	1	1.98
Cholera Morbus	409	12	29.34
Total	15368	1039	

Table I III

Showing the proportion of cases of acute and chronic dysentery admitted and of deaths from these diseases, as per 1000 of all the diseases of the stomach and bowels.

	Admitted	Dead
Total number of cases of Dis- of Stomach and Bowels	15368	1039
Acute Dysentery per 1000	544.64	835.42
Chronic Dysentery per 1000	45.48	120.31
Total	590.12	955.73

Statistics - Hindward & Leeward Comnd 119

Table J I

Showing the admissions into Hospital and Deaths in different classes of disease among 86,661 Troops Stationed in the Hindward and Leeward Command from 1814-40 1836 inclusive

Classes of Diseases	Admitted	Died	Deaths per 1000 Troops
Fevers	62,163	3,195	36.84
Eruptive Fevers	13	1	0.012
Diseases of the Lungs	9,975	906	10.45
Diseases of the Liver	1,946	161	1.86
Diseases of the Stomach & Bowels	36,474	1,795	20.71
Diseases of the Brain	2,447	312	3.60
Dropsies	659	180	2.08
Rheumatic Affections	4,202	17	0.20
Venerial Affections	3,043	6	0.04
Ulcers & Wounds	17,408	18	0.21
Wounds and Injuries	11,149	60	0.69
Humors	4,327	2	0.02
Diseases of the Eyes	7,686	4	0.05
Diseases of the Skin	559	1	0.01
All other Diseases	2,584	145	1.64
Total	164,935	6,803	

The above table shows the proportion of the diseases of the stomach and bowels to the total number of cases admitted to be 221.14 per 1000 and of deaths 262.38 per 1000

Table J II

Showing the proportion which the diseases of the stomach and bowels bear to each other

Diseases of the Stomach and Bowels	Admitted	Died	Deaths per 1000 admitted
Peritonitis	25	4	280.00
Gastritis	161	26	161.49
Enteritis	254	38	149.61
Hematemesis	34	2	58.82
Dysentery Acute	14046	608	43.91
Dysentery Chronic	3764	459	201.49
Dyspepsia	1142	24	23.64
Golias	3286	15	4.56
Diarrhoea	11828	285	24.09
Cholera morbus	1173	24	20.46
Obstipation	424	3	4.13
Schirrhus pylori	1	1	1000.00
Total	36474	1495	

Table J III

Showing the proportion of cases of acute and chronic dysentery admitted, and of deaths from these diseases per 1000 of all the diseases of the stomach and bowels

	Adm	Died
Total number of cases of Dis- of stomach & bowels	36474	1495
Acute Dysentery per 1000	385.91	338.66
Chronic Dysentery per 1000	103.28	422.84
Total	489.19	761.50

Statistics — Jamaica

Table K I

Showing the admissions into Hospital and Deaths in different classes of diseases among 51,567 White Troops serving in Jamaica from 1814 to 1836 inclusive

Classes of Diseases	Admitted	Died	Deaths per 1000 Prop
Fevers	46,922	5,253	101.87
Eruptive Fevers	10	..	..
Diseases of the Lungs	4,357	388	7.52
Diseases of the Liver	539	51	0.99
Dis. of Stomach & Bowels	12,282	260	5.04
Diseases of the Brain	720	137	2.66
Dropsies	268	61	1.18
Rheumatic Affections	1,479	5	0.10
Venerial Affections	1,021	1	0.02
Ulcers and Abscesses	9,667	18	0.35
Wounds & Injuries	6,164	21	0.41
Fumsters	3,285	..	..
Diseases of the Eyes	4,644	..	..
Diseases of the Skin	337	..	..
All other Diseases	1,760	59	1.14
Total	93,455	6,254	

The above Table shows the proportion of the diseases of the Stomach and Bowels to the total number of cases admitted to be 131.42 per 1000 and of deaths 41.54 per 1000

Statistics - Jamaica
Table K II

Showing the proportion which the diseases of the Stomach and Bowels bear to each other

Diseases of the Stomach and Bowels	Admitted	Died	Deaths per 1000 Adm.
Trichonitis	2	1	500.00
Gastritis	42	4	95.24
Enteritis	52	11	211.54
Hematemesis	9	4	444.44
Dysentery Acute	4473	114	25.49
Dysentery Chronic	436	70	160.55
Dyspepsia	579	5	8.64
Folicea	1107	4	3.61
Obstipatio	196	2	10.20
Cholera Morbus	216	3	13.89
Diarrhoea	5169	42	8.13
Scirrhus Hylari	1	1	100.00
Total	12282	260	

Table K III

Showing the proportion of cases of Acute and Chronic Dysentery admitted, and of deaths from these diseases per 1000 of all the diseases of the Stomach and Bowels

	Admitted	Died
Total number of cases of Dis of Stomach & Bowels	12282	260
Acute Dysentery per 1000	364.19	438.166
Chronic Dysentery per 1000	34.69	269.24
Total	398.88	707.70

Table LI

Showing the admissions into Hospital and Deaths in different classes of diseases among 355 White Troops serving in the Bahamas from 1814 to 1836 inclusive and at Honduras from 1822 to 1836 inclusive.

Classes of Diseases	Admitted	Died	Deaths per 1000 Troops
Fever	727	112	130.99
Diseases of the Lungs	28	4	4.68
Diseases of the Liver	7	1	1.17
Diseases of Stom & Bowels	120	7	8.19
Epidemic Cholera	2	0	
Diseases of the Brain	14	4	4.68
Dropsy	11	4	4.68
Rheumatic Affections	20	0	
Venereal Affections	8	0	
Ulcers and Wleers	51	0	
Wounds & Injuries	70	0	
Humors	38	0	
Diseases of the Eyes	7	0	
Diseases of the Skin	5	0	
All other Diseases	21	0	
Omitted in Medical Returns	8	8	9.36
Total	1152	140	

From the above table we learn that the proportion of the diseases of the stomach and bowels to the total number of cases admitted is 104.14 per 1000 and of deaths 50.00 per 1000.

Table L II

Showing the proportion which the diseases of the stomach and bowels bear to each other.

Diseases of Stomach & Bowels	Admitted	Died	Deaths per 1000 Admitted
Enteritis	1	..	..
Dysentery	43	7	162.79
Dyspepsia	32	..	..
Golica	8	..	..
Diarrhoea	30	..	..
Obstipatio	6	..	..
Total	120	7	

Table L III

Showing the proportion of cases of dysentery Admitted and of Deaths from that per 1000 of all the diseases of the stomach & bowels.

	Admitted	Died
Total number of cases of Dis- of Stomach & Bowels	120	7
Dysentery, per 1000	350.00	1000.00

Table - Showing the relative prevalence and fatality of Dysentery in different parts of the World among White Troops.....

Localities	Admissions per 1000 Troops.			Deaths per 1000 Troops.			Deaths per 1000 Admissions		
	Acute	Chronic	Total	Acute	Chronic	Total	Acute	Chronic	Total
United Kingdom.....	1.10	0.38	1.48	0.09	0.06	0.15	81.63	176.47	258.10
Gibraltar.....	43.04	0.98	44.02	0.81	0.25	1.06	18.89	254.24	273.13
Malta.....	31.92	2.40	34.32	1.91	0.39	2.30	59.86	163.27	223.13
Ionian Islands.....	19.24	4.37	53.61	1.65	0.83	2.48	33.52	188.93	222.45
Nova Scotia & New Brunswick	5.25		5.25	0.39		0.39	73.77		73.77
Canada.....	11.43		11.43	0.56		0.56	48.98		48.98
Bermudas.....	146.06	3.33	149.39	2.56	0.51	3.07	17.52	133.85	171.37
S ^t Helena.....	119.33	7.79	127.12	10.08	0.85	10.93	90.78	108.70	199.48
Sierra Leon Command	28.76	172.00	200.76	11.39	18.45	29.84	396.29	107.26	503.49
Cape District.....	59.61	3.13	62.74	1.23	0.70	1.93	20.68	225.35	246.03
Frontiers of the Cape.....	27.90	6.49	34.39	1.36	0.30	1.66	48.65	46.51	95.16
Mauritius.....	169.01	8.59	117.60	8.75	0.59	9.34	51.76	68.70	120.46
Madras.....	188.52		188.52	15.03		15.03	79.73		79.73
Ceylon.....	194.75	16.20	210.95	20.10	2.91	23.01	103.70	178.83	282.53
Hindostan & Sind and Baluchistan	162.43	43.47	206.90	7.02	8.76	15.78	43.91	201.49	245.40
Jamaica.....	86.74	8.45	95.19	2.21	1.36	3.57	25.49	160.53	186.04
Bahamas & Honduras	50.29		50.29	8.19		8.19	162.79		162.79

Part Fifth
Treatment

The Treatment of Dysentery has been conducted on very different principles by different Authors, some relying almost entirely on the use of the Cantharid, for the purpose of subduing inflammation; others of the free exhibition of purgatives to remove the fecal matters lodged in the Intestines, a third set conceiving that their success will depend on their being able to produce copious sweating, place their reliance on Sudorifics, and a fourth trusting to the specific action of Mercury exhibit it for the purpose of speedily producing an effectual Ptyalism—

It would be endless & at the same time useless and unimproving, to enter into a minute detail of these and other methods which have been recommended for the cure of this disease, we shall therefore proceed at once to consider that combination of means which seems to us most suited for that purpose both from the Pathology of the disease & the experience of most of our Modern Authors. In doing this we shall follow the same order as we have adopted in our description of the disease, viz, 1st the treatment of the acute uncomplicated form, 2nd of the chronic, & 3^{dly} of the Complications.

Chapter I

Treatment of Acute Uncomplicated Dysentery

In this as well as in other acute inflammatory diseases its nature & consequences are such as to require the adoption of early and active measures for its cure, & much of our success will often depend on the promptness with which such remedies are applied.

When this form of the disease has set in the indication of cure, to which we must first turn our attention is the diminution of inflammatory action, and the first remedy which we shall consider as applicable for this purpose is bloodletting - This has been recommended by authors from a very early period as by Aetius, Prosper alpinus, Botanius, Sydenham and many others; in the second volume of the *Med & Phys. Journal* published in 1799 Dr Whyte, in a letter to the Duke of York, states that he had often taken from 50 to 60 ounces of blood in a couple of hours & thus saved many valuable lives. His example does not appear to have been followed at that time in India, indeed, Sir George Ballingale states that one of the reasons which restrained him from using the lancet freely at the time of his arrival in that country (in 1807) was a due deference to the opinion of the older practitioners which was almost universally against it."

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Treatment of acute Uncomplicated Dysentery - Bleeding

He also adds however that "of the few cases of Dysentery in which I have employed bleeding, the Majorities have, I think, terminated favourably; & of those in which the result has been fatal, the appearances on dissection have been such as to excite a sentiment of regret at not having carried the evacuation farther." The opinion of many other practical Authors is equally favourable to the use of this remedy in the form of the disease which we are now considering. Among these we need only mention Barmpfield, Twining, & Annesly in India; Sir J. McErgive, Dr. Ferguson, Sommers & Forbes or who employed it in the peninsular Campaigns.

In the Dysentery of the Camp Principle led at the commencement of the attack because the disease was partly inflammatory & accompanied with fulness of blood. Annesly likewise used it successfully when the Patients were strong & suffered from sharp pain in the bowels, without being prevented by the low quick pulse with which the disease was often attended. Notwithstanding the testimony of these and many other Authors, there are not wanting those who question the propriety of bleeding in tropical Dysentery. It has been said that the European constitution will not bear the evacuation and that the debility which supervenes in the progress of the disease

Treatment of Acute Uncomplicated Dysentery - Bleeding ¹²⁹

forbids the employment of such a remedy. Experience, however, to which in Medical Science all hypothesis must yield, would seem to show that these objections are unfounded for it has been observed by some of those who have employed this remedy most extensively, that the debility referred to is much more likely to occur when depletions have not been employed, & that the Patient actually recovers with less diminution of strength, & certainly not much less than is produced, by a long continued chronic dysentery or diarrhoea, into which the acute form more frequently passes when bleeding is neglected. Among Europeans in hot climates, particularly those who have recently arrived, the inflammatory action is generally more intense, and passes more rapidly to an unfavourable termination; hence in such cases especially if the patient is of a full habit of body, with a full hard overtable pulse, severe tormina of fixed pain increased on pressure, a full bloodletting from the Arm should be employed. When carried to a sufficient extent it will in some cases be unnecessary to repeat it, but when a sufficient quantity has not been withdrawn at first, or the symptoms continue unabated, it will be necessary to repeat the venesection, & assist its operation by the application of leeches to the abdomen.

In old Residents & Natives of warm climates general bleeding

Treatment of acute Uncomplicated Dysentery - Bleeding

is frequently inadmissible, & here local depletions must be had recourse to, such as leeches to the Abdomen in numbers proportioned to the circumstances of the case & followed by warm poultices & fomentations. It has been recommended particularly by some French writers to employ local depletion by the Application of Leeches to the Anus, a practice which seems to be often productive of much benefit, the only objection that can be urged against it - is that the secretions coming in contact with the bites are apt to irritate them & lead to the production of irritable sores. When the disease has been treated by bloodletting at the commencement, blood seldom appears in large quantities in the stools; but even att'ho' it has already been discharged, that alone should not prevent us from employing the remedy either generally or locally, for by this means further loss of blood by the intestines may be prevented - "Then" says Dr Johnson "blood appears alarmingly in the stools, whether the fever run high or not Venesection may be employed without the smallest apprehension of that bugbear - Debility -"

When the Patient complains of heat burning & soreness in the course of the Colon, local depletions at least should be adopted. Even in the advanced stage of the disease when the Energies of the system are much impaired, the application of 3 or 4 leeches has been attended with advantage

1 op. cit. p. 371

Treatment of Acute Uncomplicated Dysentery - Purgatives ¹³¹

The Dysentery of this Country seldom requires a treatment so active as that of Tropical climates, but even in sporadic cases bloodletting will frequently be found a useful remedy, in removing the symptoms threatening the disease - "We are often cautioned against Venesection, which was certainly the remedy the least equivocal in its effects, the most uniformly useful of any which we employed in the Whitworth Hospital" (Cheyne).

The next means of cure to which we shall allude is the use of Purgatives. This class of Medicines has been long recommended in this disease, & when judiciously employed they are often of the greatest service, tho' perhaps none have been used with less discrimination. It is of importance to ascertain at the commencement of the disease, whether faecal matters are lodged in the Intestines, in such quantity as to require the exhibition of Medicines for their removal - the principal circumstances which indicate their presence are a loaded foul tongue, hardness of fullness in any part of the Colon or in the Cecum, the appearance of the evacuations, & the occurrence of pellets of faeces in the stools; if these symptoms are present & more especially if the attack has been preceded by constipation, or even a natural state of the bowels, the exhibition of Cathartics is necessary after Venesection has been performed. In some cases it

Treatment of Acute Uncomplicated Dysentery - Purgatives ¹³²

may be proper to employ a purgative medicine to enable us to discover with greater certainty whether such feculent accumulations do exist, and when we are certain that they still continue to be lodged in the intestines the means for their removal must be repeated. On the other hand when the disease has been preceded by diarrhoea, they should perhaps be entirely omitted; when they have been employed without producing a discharge of lumpy unhealthy faeces, no advantage is to be derived from their repetition, on the contrary they not only aggravate the griping spasms & increase the discharge of blood & mucus. If however during the progress of the disease the patient has not discharged any feculent matter for some time, & if the tenesmus is severe a mild purgative may be prescribed, to ascertain if accumulation has taken place. We should in all cases endeavour to distinguish as far as possible, between the irritation, & tenesmus produced by the inflammatory action alone, & that which is caused by the retention of feculent matter.

Much difference of opinion exists, as to the description of purgatives that should be employed some recommend those of an active description while others say that mild laxatives should alone be used the saline Cathartics as Sulphate of Magnesia or of Soda

Treatment of Acute Uncomplicated Dysentery - Purgatives

Sulphate & Tartrate of Potash & Tartrate of Soda have all been recommended by different authors, & they are considered by some to be more serviceable when united with Antimonials. It is probable however that brisk Cathartics given in the irritable condition of the Intestines will not procure feculent stools, but increase the irritation & produce serous Evacuations. In some cases the rapidity of their action is of importance & in such it is advised to unite them with infusion of Senna or with Infusions of Senna & Gentian; but in ordinary circumstances the oleaginous laxatives as the O. Ricini are perhaps the best.

Mr Anckerly advises, when the disease comes under treatment at the early part of the day, a scruple of Calomel should be given after the first bleeding, followed in a few hours by a purging draught assisted, by a laxative enemata which are both to be repeated if they do not act sufficiently in a few hours. The Calomel is to be again administered at bedtime in the same quantity with 2 or 3 grains of Opium, and accompanied with an Anodyne Injection, for the purpose of procuring sleep and a quiet night, of lessening the severity of the symptoms, diminishing the frequency of the stools, & rendering the evacuations more free and copious afterwards, whilst at the same time it assists

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Treatment of Acute Uncomplicated Dysentery - Mercury

in determining the circulating fluids to the surface. The scruple of Calomel given before the purgative draught is to correct the biliary & intestinal secretions, and prepare them & the surface on which they are lodged for its operation; and McAnnesley considers that the production of Ptyalism is not necessary in the acute form of Dysentery, altho' many place their principal, if not their entire hopes of curing the disease, on this power of producing the specific action of Mercury. For this purpose different preparations have been used internally as well as Mercurial frictions to the surface; but in the form of the disease which we are now considering, the Mercurial treatment would seem not to be so generally applicable as some authors would lead us to suppose. After giving the remedy to the extent of producing profuse Salivation Sir George Ballingall¹ abandoned the practice having found it "decidedly unsuccessful" and also from observing on dissection that the dysentery did not depend on disease of the Liver, but consisted of inflammatory action of the large intestines. Sir J. M. Grijan also states that "after repeated failures choosing some men, Mr. Alston saw the necessity of giving trial to other remedies than Calomel"² - Dr. Johnson was the first to recommend the employment of scruple doses of this medicine repeated 2, 3, & even 10 times a Day;

¹ Military Surgery p. 510 ² Sketches of Med. & Surgery p. 186.

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Treatment of Acute uncomplicated Dysentery - Mercury

this was not the method which he followed in ordinary cases, "but" whenever" says he "in doubtful cases, I had occasion to push boldly on for Ptyalism, I gave the Calomel in scruple doses; which I found, by repeated experience, to sit easier than either: in smaller or a larger quantity of that Medicine a curious but a certain fact-" In other cases that further man advised the Calomel to be used in smaller doses frequently repeated, employing at the same time Blood-letting, Anodynes, Diaphoretics, Purgatives & Emollient Clysters with a flannel bandage to the Abdomen, and under this treatment continued for a few days he states that the Mouth will become sore & every bad symptom disappear. But as the remedies here used in connection with the Mercury are exactly those, which in the hands of others, have proved most successful in curing the disease it may be fairly questioned, whether the Ptyalism, should not be considered as the effect of the removal of the diseased action by these means, rather than the cause of the cure. In those cases where the symptoms have disappeared upon the superintention of Ptyalism it often seems rather that the Mercurial action is to be imputed to the previous subsidence of the disease than that it has caused this result; instead of being a cause of recovery the Mercurial influence is merely one of the first effects of a favourable change in the course of the Malady."

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Treatment of acute Uncomplicated Dysentery - Mercury - Injections

Although therefore we consider the production of Phlogism unnecessary yet the exhibition of large doses of Calomel occasionally is often beneficial when combined with the other means of cure, it seems to act by its soothing influence on the Intestines. It has been stated that as Mercury when extensively used is known to produce symptoms resembling those of Dysentery, such as griping pains in the Bowels, tenesmus, & mucous or bloody stools it cannot be expected to act beneficially in the cure of that disease - This however does not appear to us to be deserving of so much importance as has generally been attached to it, & in fact we find that some of those authors who say that Mercury is not beneficial in the acute acknowledge its efficacy in the chronic form of Dysentery, where the circumstances now mentioned should render it equally improper; thence we can only admit it to be an example of the homeopathic Maxim "similia similibus curantur".

Injections form an important part of the treatment of Dysentery, they are used either to assist the operation of laxatives given by the Mouth & to soothe the irritable state of the large bowels, or they may be necessary for the purpose of checking the profuse discharge of blood that sometimes occurs. To accomplish the first of these objects the Enema sh^d be of moderate bulk, all irritating substances sh^d be rejected from its composition, and

Treatment of acute Uncomplicated Dysentery - Injections - Anodynes ¹³⁴

mild purgative clysters alone used. Those consisting of decoction of *oryza* or *lini* with the tetrate of Potash or of Soda or the laxative & emollient oils have been recommended. To soothe the irritability of the large intestines the ordinary anodyne clysters sh^d be employed, as those of starch or Rice Gruel or Decoction of Linseed with Tinct of Opium or Ext of Conium or of Hyoscyamus, or enemata of this description may be frequently repeated but sh^d always be small not exceeding 4 ounces that it may be sufficiently long retained. Opium has also been used for the same purpose in the form of suppositories. Various vegetable & mineral astringents have been employed to arrest the discharge of blood as decoctions of different kinds of bark, solutions of the preparations of Copper and of Zinc - acid solution of acetate of Lead & Alum. In some cases it has been found that even the introduction of the Injection pipe is not borne by the Patient in such we must depend on anodynes given by the Mouth. After vascular depletion has been carried to a sufficient extent & alvine evacuations proceed in cases where that is necessary, Opium or other anodynes have been generally recommended - Opium is also frequently used in combination with other substances according to the effect that it is wished to produce; as with Calomel or with Speacchuan for the purpose of producing diaphoresis,

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Treatment of Acute Uncomplicated Dysentery - Emollient Substances - Emetics

but of this we shall say more immediately.

Amongst the other substances which have been employed to allay morbid sensibility and remove spasm the most effectual are Camphor, Hyoscyamus, Belladonna, & Tobacco.

Emollient & mucilaginous substances are often very beneficial. They are much employed as a vehicle for other more active remedies, and when the small intestines are in an irritable state or the patient complains of arder urinae, or dysuria they are often very useful, but when given by the mouth their soothing effect seldom extends to the large intestines; this object is only attained by exhibiting them in the form of injections, when by becoming blended with the morbid secretions & contents of the bowel, they render them less irritating to the diseased surface.

Emetics have been prescribed for the cure of Dysentery, even as far back as the time of Hippocrates, who advises that they should be used in the early stage. In later times they have been highly recommended by some authors & condemned by others. Of those who have employed them some give a preference to antimonials & others to Ipecacuanha. When the prominent symptoms of Dysentery appear, such as chills followed by flushes of heat, griping pains, with barbarismus & paleness of the countenance &c, it may be proper to exhibit an Ipecacuanha Emetic followed by a full dose of Calomel & that in 2 or 3 hours by a purging draught

Treatment of ~~and~~ Uncomplicated Dysentery - Emetics - Sudorifics

and laxative enemata, after which the patient may be placed in the warm bath, & well rubbed with on coming out & placed between warm blankets, as these means are said to have often proved successful in cutting short the disease; but here as in other diseases many sources of fallacy exist, as Dr. Whittles Emetics really do possess the power of checking the progress of the affection. The only other circumstances in which Emetics appear to us to be indicated, are, when any thing injurious has been recently swallowed which we wish to remove, or when the patient complains of oppression & nausea, accompanied with a sense of a load at the stomach. The power which they have of exciting perspiration, has in all probability been frequently the cause of their beneficial effect in this disease; for the remedies employed for that purpose are among the most powerful which we possess for curing Dysentery.

Dr. Mosley who was one of the most strenuous advocates for the sudorific method of treatment went so far as to say that "the intermittent fever is not cured with more certainty by Peruvian bark, than Dysentery by Draphnetics."

Antimonials are preferred by some authors given in the form of Jarre's powder, or pulvis Antimonialis combined with Calomel or with Calomel Opium or the Antimonial wine may be exhibited along with Tincture of Opium. The Liquor Antimonice acetatis with small doses of Camphor

Treatment of Acute Uncomplicated Dysentery - Ipecacuanha

and it has also been recommended. Doses given either in repeated small doses or in larger quantity at more distant intervals is one of the most useful means for accomplishing the object in view; but of all the cathartics no one has perhaps been more extensively employed or more highly recommended than Ipecacuanha. This drug was first proposed in this disease in 1625 by an anonymous Portuguese author, supposed to be Manuel Tristão & afterwards recommended in 1658 by Piso who found it in common use among the aborigines of Brazil as an antidiarrhetic and he employed in doses of a drachm in the form of infusion. The circumstance however which brought it into more general use, was the Physician of Louis the Fourteenth, having, by employing it, cured the Dauphin who was dangerously ill with dysentery. It has been administered in different forms & for two different purposes; either in large doses in the form of powder or infusion with a view to soothe the intestines, or in small doses given at such intervals as to produce Nausea, but not Vomiting. Balmain appears first to have employed it in large quantities combined with large doses of Laudanum a practice which was afterwards adopted by many others. The plan of giving it recommended by M. Abercrombie, when Surgeon to the 34th Regiment, who directed that several grains of solid Opium sh^d be administered & followed by 2 or more ounces of an infusion of Ipecacuan, was extensively employed in India & found by Sir George Bellinghall to be very beneficial.

1 Dis of India p. 73

Treatment of Acute Uncomplicated Dysentery - Ipecacuanha

It may be combined with almost any of the other remedies, & indeed it has formed either as an emetic, a nauseating, or a diaphoretic medicine the basis of almost all the therapeutic means recommended by many distinguished authors. It acts as well as Antimony & other similar remedies, as an antiphlogistic, both by preventing the patient from eating when given in a nauseating dose, & by determining towards the surface. Mr Living has strongly recommended the employment of large doses of Ipecacuan with the view of "relieving tenesmus & irritation, restoring a healthy state of the alvine evacuations & in more remote stages of the disease, promoting the healing of intestinal ulcers." He administers it in doses of 6grs combined with Extract of Gentian & Blue pill repeated every night at bedtime - given in this manner he seldom found vomiting to be produced. The patients have even taken it without being aware of its nauseating property; the first effect of the ipecacuan employed in this way in ordinary cases of acute dysentery was found to be a slight increase in the secretions of the bowels, the stools becoming more copious & feculent pain tenesmus diminishing the quantity of blood immediately becoming less & soon disappearing altogether.

Owing to the irritable state of the stomach, it is often an object of importance to administer diaphoretics in small doses. When this is the case a dose of Calomel & opium will frequently subdue the irritability & pills composed of opium with Antimony or Ipecacuan will be found most useful, but when there cannot be borne in sufficient quantity to act on the skin.

1 Trans. of Med. & Phys. Soc. of Calcutta Vol IV page 170

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Treatment of acute Uncomplicated Dysentery - Bath - Fomentations - Flannel Band¹

recommends the Opoeacan tub used in the form of Omea either alone or combined with opium.

To promote the action of cathartics Relax the surface of the body the temperate or slightly warm bath will be found particularly efficacious; while at the same time it relieves the tormina and tenesmus, diminishes the frequency of the stools, promotes the flow of urine, & assists in procuring sleep. The temperature of the bath sh^d not be so high, as to produce a general excitement but will be found more beneficial when of a moderate heat. Rollo says the degree of heat sh^d not be much above that of the body. The Vapor Bath & the application of dry heat have also been recommended. Poultices & Fomentations applied to the abdomen are likewise very beneficial. "I have" says Sir Gilbert Blane "in my private practice found great comfort & relief afforded, by a fomentation to the anus with hot water & decoction of Camomile flowers with some Laudanum sprinkled upon the Clupes!" On coming out of the bath it has been advised to use frictions with sweet oil to the surface; the patient sh^d be immediately removed to a warm bed & determination to the surface promoted by warm ulcers & cathartics and I need scarcely add that great care sh^d be taken to guard as much as possible against cold or currents of air while the body is under the influence of these remedies.

Dr Whyte² recommended that the abdomen sh^d be surrounded with 5, 10, 15 or if fewer is not sufficient 20 fold of flannel

1 Diseases of Seamen page 462

2 Med and Phys Journal vol 2nd

Treatment of acute uncomplicated Dysentery - Hamill Band¹ - Blisters ¹¹³

bandage of 5, 10, or 12 or more inches broad, and that the Patient should be immediately put to bed invested with a flannel shirt or waistcoat with sleeves. The advantages of this practice are much insisted on by Dr Dewar; it was also tried by Sir James McEry² in Egypt who found that in recent cases when employed with the appropriate remedies it seemed to shorten the cure, but it was most serviceable in chronic cases in convalescence. It is worthy of remark that this bandaging of the Abdomen, tho' not with flannel is mentioned as long ago as the time of Aetius for in Dr Mosely's review of those who have written on this subject we find the following observation from that Author "It is wonderful what good Effects are produced by such plasters as are used to bleeding wounds after the inflammation has abated, & such as are used for fractures, applied round the whole belly & loins, to the back."³

Blisters & Rubefacients applied after the violence of the inflammatory action has been subdued, are productive of the greatest benefit. Frictions with Camphorated liniments, or with Croton oil, also the Turpentine Opethem & Symplicium to the Abdomen have been used. These means however are less effectual than a blister but when the urinary organs are affected blisters are apt to aggravate the irritation in them, when this happens, drinks with Soda butre small doses of Camphor will afford relief. The greatest care should be taken in dressing the blistered surface; and by removing the blister when redness is produced

1 Observ on Diarrhoea & Dysent page 112 - 2 Sket of Expedi^{on} to Egypt p 189
3 Opus citat page 294

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Treatment of acute Uncomplicated Dysentery - Tonics - Stimulants

and applying a poultice, there is less danger of its affecting the vision^{of the} eyes, when the patient is much debilitated after the removal of the tormina and tenesmus by the antiphlogistic remedies, an infusion of Cinchona ex Calumba, or some other mild bitter, with Camphor Lig. Ann. Aect., & small doses of Ipecacuan will be found very serviceable.

When notwithstanding all our endeavours to check its progress, the disease passes on to mortification of the intestine, a circumstance which more frequently happens when the patient has not come under treatment at the commencement of the attack, we must endeavour to support the strength by administering bark & wine & relieve pain by the employment of anodynes & emollients.

If the acute form of the disease does not yield to the treatment employed & passes into the chronic, the means adapted to that state to which we shall presently advert, must be used.

The treatment now described must be varied more or less according to the severity of the attack & constitution and habits of the patients. Among Europeans recently arrived in hot climates, decidedly antiphlogistic remedies are more generally necessary, while in old residents still more so among the natives the treatment must be somewhat modified. The original conformation, habit of body, & mode of living of the natives indicate the necessity of

Treatment of Chronic Dysentery

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such a modification; their habitual use of warm spices and stimulant tonics render it often necessary to combine these with the other means employed.

The acute dysentery of temperate climates sh^d be treated on the antiphlogistic principles above described, but as we have already stated it seldom requires the employment of such active measures, as those which are requisite among Europeans in tropical countries.

The only other circumstance which remains to be mentioned is the diet regimen that should be prescribed, but we shall postpone the consideration of this till we have mentioned the therapeutic measures that ought to be followed in the other forms of the disease.

Chapter II

Treatment of Chronic Dysentery

In those cases in which after the acute disease has been subdued the stools continue either frequent without tormina or tenesmus and do not exhibit an unhealthy appearance the pulse improving & the patients strength & appetite gradually recovering & remaining unimpaired the discharges should not be checked by the employment of opiates or astringents, as they are beneficial in relieving the inflamed vessels & in restoring the bowels to a more healthy condition; but when the appearance of the evacuations & the symptoms indicate that the disease in the intestines is still going on, it is

Treatment of Chronic Dysentery - Blooding - Counters - Bath¹⁴⁶

evident that Nature must be assisted by art in removing it. Even in the chronic forms of the disease it will sometimes be necessary to employ vascular depletion, to remove the remains of inflammatory action which sometimes exist along with the morbid state of the secretions. Hence if the patient complains of soreness in the Abdomen, increased pressure, and if the evacuations are slimy or mixed with blood and accompanied with a sense of heat, griping, tenesmus, or tenesmus with fever, restlessness at night, and thirst, local depletion should be adopted, & it is more frequently necessary when the disease has followed an acute attack in which bloodletting was not employed. In some cases however the patient's strength is so much exhausted that even the application of leeches is inadmissible. In such circumstances benefit will often be derived from counter-irritation produced in different ways, as by flannel ruing out in hot water & moistened with spirits of turpentine applied to the Abdomen & continued as long as the patient will endure it; or by the application of blisters followed by fomentices.

The warm bath, stimulating frictions to the Abdomen and the flannel bandage will also be found useful. The flannel bandage acts in different ways, it excites a certain degree of counter-irritation in the surface of the Abdomen, keeps up a uniform temperature

Treatment of Chronic Dysentery - Lannel Bandage - Mercury

by wearing it, the patient carries constantly along with him a bath of the best temperature, invariable in its heat, one which will on no occasion weaken him by profuse perspiration, & which, never laid aside, till it is no longer necessary, cannot expose him to the effects of cold by change of temperature (Shaw). The relief afforded by the pressure of the bandage when first applied is also considered by the author now quoted as one of the benefits to be derived from it, it likewise acts as a support to the debilitated bowels.

Mercurials have been strongly recommended in Chronic Dysentery and they are more particularly applicable when the Liver is affected. "If says Sir G. Ballingall, in treating of the acute form of flux I have refrained from an indiscriminate & as I conceive unwarranted commendation of this powerful medicine (Mercury) it is only in hopes of being able to urge its importance with double force in the form of Dysentery now under consideration; & to recommend an implicit reliance on it in the chronic form of flux; to ascribe an almost unlimited power to it in this disease & to express an opinion that it will seldom disappoint our most sanguine hopes." All the preparations of Mercury have been recommended, each practitioner seeming to prefer the one which he has most frequently employed; but it is probable that they are all equally applicable. The most common forms in which it is used, are, the blue pill or pills made of Calomel & Opium.

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Treatment of Chronic Dysentery - Mercury - Nitric Acid with Opium

in the proportion of 3 or 4 grs of the former to 1 of the latter; to this pill a small quantity of Speacuan may be added with advantage, for while the Calomel acts on the secretions particularly that of the Liver the Speacuan & Opium will restrain the discharges from the bowels & determine to the surface of the body. with the same view 2 or 3 grs of Calomel may be given with 12 or 5 grs of Dover's powder & repeated every 3 or 4 hours. In addition to the internal exhibition of Mercury, frictions with Compounded or simple Mercurial ointment may be used; they are also to be employed in those cases in which the Stomach is very irritable and rendered more so by the internal use of Mercury. It is generally considered that in the form of the disease of which we are now speaking the Mercury should be continued until & even after the Mouth is affected; There seems no advantage however to be derived from producing & keeping up the copious styalism which some think requisite, but on the contrary, if we consider the exhausted state in which such patients often are, it will be evident that a remedy which tends to increase the debility must be injurious.

Dilute Nitric Acid with Opium taken internally has been much recommended by Sir J. McGrigor & may be employed at the same time as the Nitro-Mucous Solution Externally which McAnusley has found very efficacious

Treatment of Chronic Dysentery - Astringents - Anodynes

particularly in obstinate cases; It is used in the form of bath, or in that of poultice, or sponging to the abdomen & hypochondria. The infusion of Specueuan or Decoctum Lini with Mucilage may also be given once or twice a day in the form of Enema. In the advanced stages and when the morbid secretions continue, & proceed from a long established habit of acting the relaxation of the mucous surface of the bowels. Astringent remedies both vegetable & Mineral have been recommended, as Infusion of Cinchona, or of Rhubarb, the preparations of Catechu, Kino, Hematoxylin, Acetate of Lead, Sulphates of Copper, & of Zinc, & Alum. Dr. Mosley recommends a mixture of the two last; Nitrate of Silver either with or without opium has also been used. The infusions of the different astringent barks may be given along with Laudanum. It is generally necessary particularly among the dark races, & old residents in warm climates, to unite aromatics or warm spices with the other means used of the mineral astringents. The most powerful is the Acet. of Lead, which may be given in the form of pills combined with opium. This class of Medicines is also used in the form of Injections.

Opium & other Anodynes are beneficial in allaying irritability and relieving pain, given either alone or combined with other remedies, & exhibited by the Mouth or in the form of Enema. In Administering Medicines in the latter

Treatment of Chronic Dysentery - Purgatives - Terebinthin¹⁵⁰ Prep³⁴

form, the same circumstances should be attended to as have been mentioned in treating of acute dysentery, the remedies then made emollient & mucilaginous substances apply equally to the form of the disease of which we are now treating.

Collections of faecal matters often occur hence the occasional exhibition of purgatives is necessary for their removal as well as that of mucus secretions. Those of a mild nature sh^d be employed, after which injections of opacucum or emollient substances may be exhibited, & it should be recollected that they are more frequently necessary when opium & astringents have been employed.

Terebinthinate preparations have also been much used, the Canadian & Peruvian Balsams, but particularly the Balsam of Copaiva either with opiotics & aromatics, Magnesia and demulcents, given by the mouth & administered in injections. Various other remedies as Muscivora & its active principle thyrocholine have also been recommended by diff^t authors. Injections containing different stimulant & astringent substances may be employed when ulcerations occur in the lower part of the intestine as Decoctions of the Astringent Barks Infusion of Calumba & Calicheu, Solution of Sulph^r of Zinc, Nit. of Silver, & acet. of Lead, also lime water with Calomel in the form of black wash, emollient & mucilaginous substances should be added to the injections which should not be large & constipation must be guarded against

Treatment of Chronic Dysentery-Tonic-Stimulants &c.

Benefit will also be frequently produced when ulcerations exist by the repeated application of Rubefacients to the Abdomen or blisters or the introduction of setons.

Among the Natives of warm Countries, in addition to the other means, remedies possessing a tonic & stimulating property are generally necessary, to meet the adynamic condition into which they are brought by the continuance of the chronic disease. Altho' it is requisite to employ remedies of this nature the occasional use of purgatives in them, as well as in Europeans, sh^d not be neglected, whenever we have reason to suspect that accumulations of fecal matters & miltid secretions have taken place in the prima vice, as they are apt to lead to ulceration in the Cæcum or Colon which may occur in the native constitution, without any appearance of previous acute symptoms.

In describing the treatment of acute Dysentery, we have not mentioned that which is applicable to particular symptoms nor shall we do so in the present Chapter, as such symptoms are more or less common to all the forms of the disease, & will be described after the treatment of the complicated forms has been mentioned.

There is one circumstance, however, viz, the occurrence of stricture in the Colon which are more generally consequent on Chronic dysentery with the consideration of which therefore we shall conclude this Chapter.

Treatment of Chronic Dysentery - Strictures in the Colon ¹⁵²

They often occur in the advanced stages of, or as a sequel to the Chronic disease. It is generally difficult to ascertain their existence with certainty, during the life of the patient. The bougie will seldom afford any assistance both because they are generally beyond the point to which that instrument can reach, & the condition of the mucous surface of the bowel generally forbid its use. We must therefore depend on the general symptoms by which the case is characterized. They may be treated if after repeated attacks or in the advanced stage of the Chronic disease the evacuations are scanty & contain semidissolved feces, with shreds of white mucous or of albuminous excretions; if they are preceded by a feeling of uneasiness in the course of the Colon, with a sensation of a load or fullness about the caecum & right hypochondrium or between the Epigastrium & umbilicus; if it is difficult or impossible to obtain full or frequent evacuations, while the patient is not suffering from tenesmus or other acute symptoms, if there is distension of the abdomen, flatulent excretions & a foul breath, & if on endeavouring to give an Enema it cannot be fully thrown up, or returns immediately. In these cases also the region of the caecum & ascending colon will frequently have a hard stony feel, & the patient will sometimes complain of a sense of scraping gnawing or tearing

Treatment of Chronic Dysentery - Strictures in the Colon & Rectum

or of a feeling of dragging in some part of the colon before the evacuation of the bowels.

The indications to be followed in the treatment of these strictures are to prevent the accumulation of faecal matters above them and the consequent irritation & distension, by preserving the contents of the large intestine in a fluid state; and also to endeavour to subdue the chronic inflammation & ulceration that often exists, in the strictured part.

To accomplish the first of these objects all irritating cathartics sh^d be avoided & cooling & gentle laxatives, refrigerants, with Anodynes & emollients sh^d be employed. For this purpose sulphate of Potash with Magnesia, Tartrate of Soda, Manna, small doses of blue pill & Extract of Hyoscyamus, or of Conium, Nitrate of Potash with Carbonate of Soda & small doses of Camphor or Decoction Linic with this oil or Borax in the form of injection other such remedies will be found beneficial - to accomplish the second object gentle friction of the abdomen with oleaginous & antispasmodic liniments sh^d be employed as Linimentum Camphorae or Lin. Sap. c. opic, or the application of the Emplastrum Amm. cum Hyoscyamo with or without the Extract of Belladonna or the counterirritation produced by the Croton oil or other means along with a properly regulated farinaceous diet.

The strictures frequently occur in the Rectum: when this is the case the contents of the bowels should be kept

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Treatment of Dysentery complicated with Dis of the Liver - Bleeding

in a fluid state, great care should be taken to preserve the Biliary & Intestinal secretions in a healthy condition, and with the view of rendering the fecal matters less irritating to the strictured part - injections of an Emollient, diluent, Mucilaginous & soothing nature should be employed. In cases of this kind the Bougie will sometimes be useful, it should not however be trusted to alone, in using it - it must be recollected, that the diseased state of the Mucous membrane renders it more easily injured by its employment.

Chapter III

Treatment of the Complications

Section I

Treatment of the complication with Disease of the Liver - we have already mentioned that when the disease of the Liver accompanies the acute form of Dysentery the former is likewise frequently of an acute or sub-acute character, hence the antiphlogistic method of treatment is necessary.

Bloodletting should be employed either generally or locally or both according to the circumstances of the case. This complication frequently occurs among old European residents in warm climates, in whom general bleeding can seldom be used, but local depletion should not be neglected, & may be repeated as often

Treatment of Dysentery complicated with Disease of the Liver - Purgatives - Mercury - Nit. Mur. Solut^o &c

as the condition of the patient indicates its necessity; after which purgatives are to be given in the manner already recommended in the treatment of simple dysentery.

The warm bath diaphoretics anodynes & emollient Enemata are also to be employed, but in addition to these other means must be used, which act more particularly in removing the affection of the Liver, as it has either produced or tends to perpetuate the dysenteric disorder.

with a view of correcting the morbid secretion & function of that organ Mercurial preparations are generally used, they may be given internally in the form of Calomel combined with Opium, or of the blue pill, while frictions with camphorated Mercurial ointment are employed over the region of the Liver and Abdomen.

The affection of the Liver is however more frequently of a chronic character & associated with Chronic dysentery, in such cases the mercurial preparations are more particularly beneficial; they may be combined with laxative & astringent remedies given internally and the mercurial ointments applied externally, or the Nitro-Mercurial solution in the manner already mentioned. The application of Ammoniacal & Mercurial plasters to the Abdomen or counter-irritation produced by tartaric of Antimony ointment or the repeated use of blisters, or leeches or issues will also be found very serviceable.

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Treatment of Dysentery complicated with Disease of the Liver

When the dysenteric affection appears to be symptomatic of the disease of the Liver, established up by chronic inflammatory action in that organ, the means of cure differ but little from that which is necessary in the treatment of Chronic hepatitis, &th consist in local depletions, purgatives, Mercurials, & Nitric acid employed according to the circumstances of the case; as well as the external applications above mentioned in addition to these the warm bath & diaphoretic medicine, will be found beneficial.

The Antacids with alterative doses of Mercury and gentle Laxatives may be employed when we have reason to suspect acidity of the contents of the primæ viæ, which often occurs when the bile is deficient in quantity or altered in quality; in such case, the evacuations are generally frothy, & of a pale colour & fermented appearance.

It is unnecessary to dwell longer on the treatment of this complication after what has been stated in treating of Chronic dysentery, as it must be conducted much on the same principles as there recommended; and when the dysentery is symptomatic of abscess or other changes in the Liver, the means adapted for the removal of these affections must be employed.

Section II

Treatment of Dysentery complicated with Disease of the Spleen Pancreas & Mesenteric Glands
In unhealthy situations and after intermittent and remittent fevers the complication with disease of the Spleen is most frequently met with.

It will not in general be necessary to employ bleeding but in some cases local depletion will be found beneficial the other means of cure should consist of the occasional use of purgatives with stomachic aperients as Cinchona with Rhubarb Aromatic & Spicuevan; this last remedy has been recommended in combination with Sulphate of Iron & other Tonics.

Emollient & anodyne enemata & diaphoretics may also be employed; likewise the warm bath with frictions to the abdomen turpentine & them or blisters followed by poultices and the other means recommended in the chronic form of simple dysentery. Enlargement of the Spleen occurs along with chronic dysentery in the dark races, when the chalybeate preparations with Rhubarb & occasionally stomachic purgatives will be found useful.

The complication with disease of the Pancreas or Mesenteric Gland is not differently ascertained but a treatment similar to that just described

Treatment of Dys^{try} complicated with Intermittent & Remittent Fevers

will be applicable to both. In addition however to the means there mentioned the different preparations of Iodine have been much used & it is said with great benefit; such as small doses of the Ioduret of Mercury or the solution of Hydr. of Potash with Iodine & a small quantity of Laudanum. The warm bath and the external applications above mentioned sh^d also be employ'd at the same time. When the throats are bloody & the patient complains of gripping pains, instead of giving the Iodine internally it may be rubbed in the form of ointment on the surface. Dr Copland states that in the Mesenteric complication occurring in children he has seen great benefit derived from the Liq. Potassa in tonic infusion, with Symplicus Papaveris or Tinctura Opii & from the Chlorate of Potassa with Dover's powder; a turpentine ole draught & Opium being given every 3^d or 4th day.

Section III

Treatment of Dysentery complicated with Intermittent & Remittent Fevers

It is very frequently observed in compound diseases that when these remedies are employ'd which are adapted for the removal of one they produce an equally beneficial effect on the other. Thus with regard to the present complication the Dysentery seems often to be a symptom of the febrile affection and hence the means directed for the cure of the latter

1 Diet Hunt Med Kant 3rd page 425

Treat^{2d} of Dys^{2d} complicated with Inter^{2d} & Remitt^{2d} fevers - Bleeding Purgatives

have also put a stop to the former disease. This was observed by Clesper¹ to be often the case. While on the other hand Zimmerman was successful by directing his remedies against the dysentery "in fact" says he "as each symptom of the dysentery decreased & at length vanished I perceived that the fever in like manner decreased & vanished".²

In many instances however this does not occur, but if we succeed in removing one of the diseases the means more especially adapted for the cure of the other will be employed with greater chance of success. It is not our intention to enter into a minute detail of the treatment requisite in Dysentery complicated with different forms of fevers as we have already described at sufficient length that must apply to the uncomplicated disease when it occurs as a symptom of the febrile affection the treatment must be greatly regulated by the nature of means of cure adapted to the reigning fever which often varies much at different times & in different places. We shall therefore only give a short account of the means which some of these authors who have treated this complication have found most successful the propriety of employing bloodletting must depend much on the nature of the complicating fever; purgatives however are generally resorted

¹ On Diseases of Minorca - ² on Dysentery Trans by G. Hopson page 55

Treat of Dysentery complicated with Inter & Remitt Fevers - Emetics, Cathartics & Bark

and as the biliary organs are frequently implicated Calomel will be found very efficacious.

Emetics may be requisite for the same purposes as in simple dysentery. Diaphoretics, & Anodynes for the purpose of allaying irritability, will also be found beneficial.

Numerous authors have spoken in the highest terms of bark in the treatment of dysentery complicated with intermittent & remittent fevers. Morton¹ seems to have been the first who employed it; he administered it in combination with opium. In employing it in the dysentery complicated with the tertian fevers of Minorca Clesham found that it often put a stop to both diseases, "especially if the exacerbations began with chilliness and terminated in sweats; at other times it removed the fever, the flux continuing without much alteration."² Rolle states that "when the dysentery assumes the intermittent form the return of the paroxysms is to be prevented by an early exhibition of Peruvian bark in as large doses as the stomach will bear. If the disease is more continued but distinguished by alleviations & exacerbations the bark is to be used during the former & in the latter the other remedies means of treatment are to be adopted. By a timely exhibition of the bark in

¹ De Librilus Rom - ² ut supra

Treatment of Dys²⁴ complicated with Typhus - Purgatives - Bath - Effusion

the first alleviations of the disease after the necessary Evacuations have been made, a favourable turn generally takes place." When it is necessary to employ wine & Cordials during the convalescence Zimmerman used such as strengthened while at the same time they were not heating & tended to promote a degree of Evacuation. He also found acids very useful & permitted those who were recovering to take as much boiled fruit as they wished with lemon juice

Section IV

Treatment of Dysentery complicated with Typhus

In the treatment of this complication it is ever more necessary than in that with intermittent or remittent fevers, to be guided very much by the fever that accompanies the Dysentery

Purgatives are necessary for the same purposes as in the other forms of the disease, a draught of Castor oil turpentine with sometimes he found very useful. The warm bath may also be employed, the patient sh^d be well rubbed on coming out of it & placed between warm blankets both regard to the cold and tepid Effusion. Dr Currie makes the following remark "I did not try the cold affusion or the application of cold in any form having learned by experience

¹ On acute Dysentery page 69

Treatment of Dysentery complicated with Typhus

that it does not succeed in Fevers with affections of the Bowels I tried however the tepid affusion in a few cases & tho' with abatement of heat, with no lasting benefit.

The Patient complained of the fatigue, pain of moving & of the chilling effects of the remedy, which was therefore abandoned!! Camphor opoea can have been much recommended of the latter Zimmerman states "it is without doubt the principal remedy in this species of dysentery". We administered it as an Emetic at the beginning, & after purging the patient he again employed it in very small doses, taken every 2 hours in chicken & veal broth; it may be given alone & with Camphor in the form of pills. Emollient & anodyne enemata & opium suppositories are useful if the tenesmus & dysuria are distressing. Counterirritation produced by flannel rung out of hot water moistened with spirit of turpentine & applied to the abdomen will be found beneficial. When there is great depression of the powers of life decoction of Cinchona with Camphor & small doses of Mercuric of Ammoniac or with Chlorate of potash or of soda may be given. When the stools are offensive the Chlorates may also be employed with Camphor in the form of Enemata. When the evacuations as well as being morbid are profuse & cause exhaustion of the vital powers

¹ Medical Reports Liverpool 1804 page 394

Treat^g of Dysent^y complicated with Worms - with Hemorrhoids

Opates and astringents may be added to the Tonics employed. Wine may also be necessary. Every means should be used to render the air pure & the strictest attention sh^d be paid to cleanliness.

Section V

Treatment of Dysentery complicated with Worms
Amongst Europeans worms chiefly occur in Children or those who inhabit low moist warm & unwholesome localities; but in the dark races they are common at all ages. With regard to the treatment of this complication Anthelmintics sh^d be employed particularly those of a tonic & astringent nature as the bark of the Peruvianate root the male fern or the pink root; after which castor oil or a mixture of it with turpentine may be administered, & assisted by the employment of Ipecacua. This complication seems sometimes to arise from a want of a due supply of salt with the food; when this is the case it sh^d be given in sufficient quantity with aromatics & warm spices, after which nourishing diet with vegetable & mineral-tonics sh^d be prescribed.

Section VI

Treatment of Dysentery complicated with Hemorrhoids
In this complication much benefit will be derived

Treatment of Dysentery complicated with Rheumatism

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from local depletions from the perineum or sacrum followed by the hip bath or fomentations after which a cooling ointment with Belladonna or some other anodyne will be found useful in removing the morbid sensibility & the spasmodic action of the sphincter ane which tends in such cases to increase the pain. In addition to these mild laxatives with cooling diaphoretics & mucilaginous substances given by the mouth or as injections & Opium suppositories will be found useful.

Section VII

Treatment of Dysentery complicated with Rheumatism when dysentery is complicated with Rheumatism general or local bleeding or both may be necessary. The biliary secretion sh^d be attended to & the accumulation of fecal matters & morbid secretions prevented by the occasional use of purgatives. In addition to these the warm bath or semiscupium diaphoretics & anodynes such as camphor, opocassian or Dovers powder will be found most beneficial. Sh^d the febrile & ebullient be great & there be much heat of skin antimonial diaphoretics & Opium may be used. The employment also of anodyne injections or Opium suppositories the wearing of flannel next the skin will be found very serviceable.

Section VIII

Treatment of Dysentery complicated with Scurvy
In treating this complication we sh^d try to ascertain the causes by which it is produced & endeavour as far as possible to remove or if that cannot be done counteract them. For this purpose a properly regulated diet consisting of a due supply of vegetables, & fresh meat is necessary, as well as the use of those substances which are known to counteract the scorbutic condition of the system. Of these the most important is lime juice which in combination with small doses of opium has done good service. Various other substances have been proposed for the same purpose to which a trial may be given when lime juice cannot be procured, we may instance Citric Acid, small doses of Nitro-Muriatic acid with opium, vinegar, pickled cabbage, onions, beer molasses, & nopal. The earth bath was also at one time in great repute but in all probability the beneficial results said to ~~result~~ ^{arise} from it were produced on the bodies only thro' the minds of the patients.

When the symptoms & the appearance of the evacuations indicate the retention of morbid substances of aces in the prime via purgatives are necessary & those of a mild nature sh^d be chosen, such as manna or rhubarb with lime juice and castor oil & compound powder of

Treat^{mt} of Dysentery complet^d with Scoury - Astringents Tonics &c.

Salap. Aromatic Warm spices sh^d be added to the purgative especially among the natives of warm climates when the abdomen is tympanitic or tumid & the discharge of blood considerable & at the same it is necessary to administer a purgative, a draught containing castor oil & turpentine and an injection of the same ingredients may be employed.

Astringents & Tonics are also useful given both by the mouth & as enemata suffice it to mention the infusion of Cuscuta, Catechu, or other similar substances with aromatic spices & opiates. If the patient is much weakened & the hemorrhage from the bowel is great the Mucate of Iron may be added with much advantage to the means already mentioned. The Chlorates have been recommended in combination with Camphor & Opium & may be used as well as Nitromucic acid in Mucilaginous & Emollient vehicles in the form of Enemata. A lotion of Nitromucic Acid has been applied to the external surface or used as a gargle when the gums are spongy & disposed to bleed. To relieve the heart-burn flatulence & vomiting which are often present the Carb. of Potash Soda also Aromatic Confections or eructaceous medicines with Opium may be resorted to with advantage. If however the vomiting arise from the presence in the stomach of undigested food a gentle Emetic may be given as the passage of the food in this state thro' the bowels w^d greatly aggravate the disorder.

Ammonia has been found very serviceable in removing the nervous oppression that accompanies this disease.

Strangury tenina stercorosa & other particular symptoms must be

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Treat^{mt} of Dysent^{ry} compl^d with Scurvy - Mercury &c

palliated by the same means as are employed in the other forms of the disease. Anodynes are beneficial when there is want of sleep or irritability of the intestinal canal.

When this complication is produced by improper diet as was formerly too frequently the case in the Navy, Diarrhea was generally the result of the change of food on returning to harbours; in such circumstances therefore they sh^d be anticipated & guarded against and when it does occur means sh^d be taken to check it; as it tends greatly to increase the debility of the system. In this purpose recourse may be had to the chalk mixture with aromatics, & Opium, the appetite of the patient sh^d be consulted in regulating the quantity of food, but the diet sh^d at first be rather moderate & increased according as the returning strength of the digestive organs enable them to bear it.

The function of the Liver is often affected in this disease, the secretion of bile being scanty; this however will generally be remedied with the improvement of the other symptoms from the use of proper diet; if this does not occur Mercurial preparations may be employed but not till the Scorbatic diathesis be corrected.

Note. Dr Johnson whom we have already found to advocate so strongly the Employment of Mercury in simple Dysentery makes the following statement in a note with regard to its use in the Scorbatic diathesis "Altho' a scorbatic diathesis must be unfavourable to the exhibition of Mercury, yet an unreasonable dread of this medicine has gone abroad in such cases. In my Knowledge, Mercury has been pushed the length of Syphilis for the cure of Dysentery, when the haemorrhoids were contracted the Antibilious

Chapter IV.

Treatment of Particular Symptoms

The patient's strength is often much exhausted by the want of sleep at night & great irritability. To obviate these large doses of opium or opiate injections or suppositories may be requisite & will be found particularly useful when preceded by the warm & tepid bath. Opious discharges of blood from the bowels occurring in acute dysentery may often be checked by general or local bleeding, but when they occur in the asthenic form of the disease or have by frequent occurrence lowered the energy of the system, astringent remedies must be used, as Aect. of Lead & opium given by the Mouth or Rectum, likewise the mixture of iron in any bitter infusion; the terebinthinate draught & injection may also be used. One of the most constant & distressing symptoms is tenesmus; when this occurs, leeches applied to the sacrum or perinaeum will afford relief & small emollient injections with opium, hyoscyamus or belladonna will also prove useful. It will also be relieved by fomentations to the abdomen, pubis & nates, & by sitting over the steam of a hot-water bath while at stool. Excoriations often occur about the anus in all the forms of this disease but particularly in that complicated with disease and the gums spongy with scum, & no bad consequence ensued. Mr. Thomson in the *Lancet* of the Isle of France Oct. 1804 witnessed this in many instances. In fever or dysentery I do not hesitate to use Mercury combined with Opium, regardless of a scorbutic taint - Essay on the Influence of Tropical Climates & p. 211.

Treat^{mt} of Particular Symptoms - Prolapsus ani - Always

of the Liver. In such cases anodyne fomentations & poultices, Emollient and Narcotic Enemata also lotions containing astringents & opiates & anodyne ointments with Sulph. Zinc or other Mineral astringents will be found beneficial.

Another distressing symptom is prolapsus ani for the relief of which local Apletions from the Sacrum sh^d be resorted to followed by astringent fomentations with opium. The bowel sh^d be carefully replaced. Gentle & cooling aperients will be required to remove the morbid secretions by which the irritation in the bowels is produced or at least kept up. To these may be added Opium Hyoscyamus or other Antispasmodics to relieve the spasm of the Muscular coat of the intestines; 2 Belladonna plaisters applied over the Sacrum & pubis will answer the same purpose - Ulceration of the bowel indicates the employment of astringent lotions & injections; if sloughing is suspected the flesh wash sh^d be used. When it occurs in the Chronic form of the disease along with ulceration injections of a solution of Nit of Silver prove it is said very beneficial.

Abscess in the vicinity of the Anus is another circumstance that deserves attention. We should in the first place endeavor to prevent the formation of matter by employing leeches & cooling discutient lotions; sh^d these fail warm fomentations and poultices may be had recourse to but above all an early & free incision sh^d be made to allow the matter to escape externally & thereby obviate the occurrence of fistulae - Fomentations & other means sh^d then be employed, if the part takes on an unhealthy

Treat^{mt} of Particular Symptoms - Flatulence - Urinary Organs - Inflammⁿ of Periton^{eum} ¹⁴⁰

appearance dilute disinfecting fluids may be used the strength of the patient supported by suitable means.

Flatulence is commonly removed by adding Carminatives & Antispasmodics to the laxatives employed, or injecting oil of turpentine or assafoetida into the Rectum. The symptoms occurring in the urinary organs will be alleviated by Mollient & Anodyne injections with mucilaginous drinks to which may be added Nitric acid, Lime juice, Cream of tartar, or some other similar substance to render them more agreeable to the taste. Retention of urine from spasmodic action about the neck of the bladder is generally relieved by the use of Liq^t. of Musc. of Iron - the Carb^o of Potash or Soda along with Opium or Hyoscyamus & Mucilage may likewise be recommended. Retention of urine not infrequently occurs in the advanced stage of the disease & if not timely removed tends greatly to aggravate the distress of the patient. In such cases local depletions followed by fomentations, the warm, or hip bath, & the injections already mentioned will be found of great service.

In chronic white more in acute dysentery the inflammation sometimes extends from the internal surface to the peritoneal covering of the intestines & to the Omentum & Mesentery; this may occur either with or without previous ulceration, and generally requires the most prompt & active treatment to save the life of the patient; whenever the symptoms appear bloodletting either general or local both according to the strength

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of the Patient sh^d be adopted, after which a full dose of Calomel combined with Opium may be given this may be followed up in a few hours by a draught of emulsion of Castor oil & Turpentine; the turpentine ointment sh^d also be applied to the Abdomen and repeated until the inflammation be subdued.

Chapter V

Diet and Regimen

In acute dysentery the diet must be strictly antiphlogistic the lightest description of farinaceous being only used, the drink sh^d be bland & mucilaginous, say weak gruel, barley water & hoc genus omne - all spirituous liquors sh^d in general be avoided altho' it is sometimes necessary to allow a small quantity of wine more particularly in the advanced stage & in those who have been accustomed to the liberal use of intoxicating liquors - Soups particularly if rich & containing much animal matter are apt to disagree with the patient & produce acidity in the primæ viæ - The greatest caution sh^d be observed in returning to the use of solid food; the lightest & most easily digested sh^d obtain a preference & be persevered in even after the disease has completely disappeared. Nothing is more likely to produce a relapse than any impudence in the diet; thus the employment of solid animal food before the morbid condition of the secretions have been perfectly cured has frequently induced a chronic form of the disease

Diet and Regimen

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In chronic dysentery the greatest attention sh^d also be paid to the diet of the patient & the quantity as well as the quality of the food sh^d be carefully regulated; for on the one hand if more is taken than the wants of the system require or than the stomach can perfectly digest, the disease is often greatly protracted, & on the other hand by employing a diet not sufficiently nutritive, the patient is less able to resist the debilitating effects of the disease & becomes more quickly exhausted. The imprudent use of different articles of food and drink particularly wines & spiritous liquors not infrequently converts the chronic into the acute form of the disease. Various articles of food have been proposed; Milk was much used by the Ancients. Galienus Aurelianus recommends it along with honey. It may also be given with the gums and lime water; buttermilk is preferred by some & whey by others. Milk however as well as soup is apt to cause acidity but it may be tried particularly if the patient asks for it since whatever he fancies will seldom prove hurtful & ought therefore to be applied allowed unless it is obviously of an injurious nature. Animal food is useful from being easily digested and producing little excitement in the Canal; from affording little excitement the Pulses or preparations of peas meal &c are also very beneficial. When the powers of the system are greatly exhausted it

Diet and Regimen

may be necessary to give wine along with the food but except in those who have been in the habit of employing various or spirituous liquors tonic medicines are preferable care being taken not to commence their employment too soon -

In the acute as well as the chronic form of the disease the patient sh^d wear a flannel shirt next the skin & may be placed in bed between warm blankets; the bed pan sh^d be used to prevent the risk of the patient becoming chilled by getting up to the night chair. All exposure to currents of air particularly during the night should be avoided.

It has been observed that the horizontal position relieves both the lumbar stennesses & even diminishes the frequency of the evacuations.

During convalescence too much attention cannot be paid to the food & clothing of the patient: the return to full diet cannot be too cautious cold prevented by wearing a flannel bandage round the abdomen which will also afford support to the intestines - Exposure to cold in any form especially when in a state of perspiration may bring back the disease Change of air & travelling will promote the return to health -

Lastly various natural as well as the artificial mineral waters have been recommended after frequent attacks or after the chronic disease - of the former we may mention those of Harrogate Harbledown & as to act gently on the bowels after wh^{ch} those of Pyrmont supra alternated occasionally with the waters of Seidschutz & Pullna

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