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1856

Dissertation  
on  
Gout.

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March 30<sup>th</sup> 1856

# The Gout.

The term gout is derived from the French "la goutte", which is from the Latin "gutta", a drop, and owes its origin to an old pathological notion, that a peculiar liquid matter - on which it was supposed the disease depended - fell drop by drop into the affected joint.

Gout was well known to, & well observed by the ancient physicians; and particular names were given to it, according to the part attacked, such as podagra when the foot, and chiagra when the hand was affected. Cullen gave it the name of Arthritis; but as arthritis would imply inflammation of all or any of the joints, he afterwards adopted the ancient name "podagra" (foot pain).

Gout is not generally looked on as a very dangerous disease; & many who suffer from it, console themselves with the reflection, that it serves to guard the system against others more dangerous than

than itself: and there is no doubt  
an amount of truth in this impression.  
In gouty persons, the causes which ordinar-  
-ly produce internal inflammation may be  
directed by the peculiar tendency of the  
constitution to an external and com-  
-paratively safe position. As a general  
rule the greater the hold gout has, of  
the constitution, the greater will be its  
tendency to show itself in its own  
legitimate part, the foot. However,  
it is not unfrequently fatal. In the  
earlier stages of the disease, the greatest  
danger is from internal seizure whether  
original or by translocation. Very now &  
then we hear of a victim to gout, in the  
stomach, the brain, or the heart. It is  
from the slow wearing influence of the  
disease, every year extending its sway more  
and more over the constitution, which, after  
every attack becomes less & less able to  
resist it that the great danger arises.

It is seldom a fit of the gout shows  
itself without the patient previous to

The attack. having suffered from some preliminary symptoms: and these are for the most part either simply neuralgia or such as indicate some disorder of function, all of which arise from the same cause as the well marked paroxysm, & including in their pale disorders in the functions of the digestive organs, of the heart, lungs, brain, & nerves. These premonitory symptoms being, in character, degree, & duration exceedingly diversified. Sometimes they are so mild as hardly to attract attention, while in other instances they are very distressing, occasionally lasting only a few days & again persevering with more or less steadiness for months & even for years. The most common of the premonitory symptoms is indigestion with its usual attendants of lassitude, impaired appetite, sickness, vomiting, flatulence, heartburn, acid eructations, gastrodynia & Pains and cramps are experienced in many parts of the trunk, & shoot into the upper extremity, being relieved by the extraction

of wind from the stomach. The bowels are  
irregular; diarrhoea being sometimes  
present, but more generally constipation.  
The patient is apt to be excessively dejected  
& hypochondriacal, morbidly attentive to  
every bodily feeling, inclined to exaggerate  
his ailments, and apprehensive of the worst  
event. These dyspeptic arrangements are  
no doubt traceable, in a great degree to  
the luxurious living, & consequent irritation  
of stomach habitual with those who chiefly  
suffer from the disease. But this is not the  
sole and only cause, for independantly of  
the various excitants to which the stomach  
is subjected, the direct effect of plethora -  
which always precedes absolutely, or relative.  
by every attack of the gout - is to induce a  
congestive state of the capillaries of the mucous  
membrane of both stomach and intestines,  
and an increase of its appropriate secretions,  
a condition, which is the source of gastric  
& intestinal meladies of various kinds. In  
the less vigorous & more temperate a correspond-  
ing state arises, when from diminished  
appropriation

(9)  
appropriation of blood, through sedentary  
life, inactive habits or from any other  
reason, the relative quantity of nutritive  
matters become greater than can be health-  
fully disposed of. This also, in some  
way assists, in showing us, how a state  
of plethora, & of febrile tendency, so often  
occurs in habits naturally spare, & where no obvi-  
ous intemperance has been practised.

When gout is lurking in the system, &  
jealous to its having shown itself ex-  
ternally, we have many diseases simulated  
by it. For instance when the thorax is  
affected, we may have inordinate action  
of the heart, great throbbing, & palpitation,  
slight at first, but when neglected or  
overlooked it may increase to such a degree  
as to become exceedingly distressing, & to  
interfere with the comfort & wellbeing of  
the individual. A difficulty of respiration  
& feeling of stifling, sometimes accompany  
the signs of disturbed circulation. Along  
with these, there are, for the most part  
tumefaction of the right hypochondrium,  
and

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and impeded action of the Liver.

In the head occur giddiness, transient affections of the vision and hearing, with threatenings of palsy and apoplexy.

People of a gouty constitution are exceedingly liable to sudden pains or twitches in the limbs, in the vicinity of the joints, or even in all parts of the body, which last only for a few minutes or even seconds.

The feet and ancles are more frequently affected than other parts, & in some cases the feet get so irritable & painful as to occasion difficulty in walking. Along with this irritable state of the ~~system~~ feet, appears a general fibrile condition of the system, an increase of the dyspeptic symptoms, and an abundant urtic deposit in the urine. The lobe of the ear is not unusually affected by intense neuralgic pains, which last for a short period & depend on congestion of that part. The gouty twitches spoken of above as occurring in various parts of the body in a gouty individual also seem to depend on a momentary congestion of the

the affected part or parts.

In those suffering from the gouty diathesis the cutaneous circulation becomes impeded, & the skin is hot and dry, and with this unusual dryness there is heat & itching.

Eruptions, chiefly of the scaly class appear - but by no means always - for eczema may be met with, and urticaria is by far the most common, & may be so inveterate as to continue for months & even years. In those individuals in whom the gouty diathesis is strongly marked, hemorrhages may occur.

It must not be supposed that all of those symptoms or affections as occurring premonitory to a fit of the gout are to be found in every case, far from it.

Some cases will indeed occur in which we may have the most or all of them present, but they are comparatively rare.

It has been often said that persons, in perfect health & without any premonitory symptoms - have been attacked by a fit of the gout; now, this never or almost never occurs. There is certainly much difficulty.

difficulty in meeting with gout in its  
premonitory stage, for patients seldom  
attach any importance or value, to those  
signs of disordered health which are the  
forerunners of gout, & are in this way  
said to have been seized with it, in  
health. A condition of system, however,  
under which lurks the seeds of a serious  
& harassing disease, can scarcely be  
acknowledged to be in a state of health.

There is a remarkable peculiarity, in  
an attack of gout, in this, that the  
supervention of the local inflammation gives  
relief to the constitutional disturbance,  
and that having affected this, it quickly  
and spontaneously subsides, at least, in  
the earlier attacks of the disease, leaving the  
part so lately the seat of a formidable  
derangement, somewhat weakened indeed,  
but otherwise in its ordinary condition.

Gout has been divided into a great number  
of species by nosologists: most of which  
have merely had in view the part affected.

D<sup>r</sup>. Cullen seeing the absurdity of a  
division

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division of this nature, reduced the number of species to 4. VIZ. - regular, atonic, misplaced and retrocedent goat.

This arrangement of Buller's has been very much followed since his time, & stands the test as well as any new arrangement proposed. The regular & the atonic species, however, alone deserve a separate consideration. First then we will speak of the true or regular species, & then of the irregular form, afterwards giving a few separate remarks on the nervous form of the disease. And first, as to the -

### Regular Goat.

A paroxysm of the goat consists, of a peculiar constitutional disturbance, terminating in a local inflammation, the occurrence of which ~~paroxysm~~ <sup>lettu</sup>, so far as the simple paroxysm is concerned, seems the natural remedy of the preceding disturbance.

In recent cases, the fit comes on without any very particular warning; but when the diathesis is well developed, it is almost always

always preceded by dyspepsia. The urine is diminished in quantity & deposits the urates. The patient complains of a tight shoe & tenderness in the feet, or pains in his fingers or wrists. On the occurrence of those local pains the dyspepsia vanishes, for the most part. The attack almost always commences during the night. The patient having gone to bed in his usual health, is awakened about the middle of the night, by a feeling of pain in one of his feet, mostly in the first joint or ball of the great toe, but sometimes in the heel, instep or the ankle. And here we may remark that the disease shows a singular predilection for the metatarsal bone of the great toe. Out of 193 cases noted by Sir Charles Blandin, 130 began here. At the commencement of the fit there is generally a cold shivering, which disappears on the increase of pain, and is succeeded by a febrile heat.

The pain increases in violence and severity, until it becomes perfectly intolerable, and is accompanied with much restlessness.

It is described by those who have suffered it as a wrenching, grinding, sewing pain, resembling the feeling, as if a cork-screw were driven into the joint; some patients say it feels as if a hot iron were pressed into the joint.

The part is at the same time exquisitely tender; and the patient not tolerating even the weight of the bed-clothes, or a heavy footstep in the chamber. He is perpetually tossing about in the bed, after a vain search for relief. The pain towards the following evening, having attained its acme ceases as midnight approaches, sometimes quickly, but more generally gradually; & the patient falls asleep in a gentle prostration. On awakening the following morning he finds the part formerly so painful to be red, swollen, tense & shining; - the parts around oedematous & the vessels dilated. The patient is feverish, restless, irritable and depressed; the tongue furred; urine of a high colour, acid and loaded with lithates.

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The fit does not end here. Both the inflammation and the fever undergo an exacerbation towards evening, which continues more or less through the night, merely to abate again in the morning; and this daily alternation goes on for a length of time varying greatly in different cases, but in the earlier stages of the complaint generally not exceeding a week or ten days, and not infrequently falling short of the first mentioned period.

For the most part the pain & fever leave the patient before the swelling, & sometimes, but not always this disappearance is attended by a slight diarrhoea.

As the oedema subsides, & the redness fades, the cuticle of the part that has been inflamed peels off; and this desquamation is in general attended with troublesome itching.

Such is a picture of an attack of the gout, taking place for the first time & in its most regular & true form.

After the disease has repeatedly recurred, it will often deviate from its original course

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course, and the paroxysm may commence in any one of the joints of the body, or even in an interior organ, though it still shows a preference for the parts primarily affected. As a general rule the greater the strength of the disease in the system, the greater will be its tendency to seize on its own legitimate part - the foot; and that consequently whatever tends to weaken the system, renders the occurrence of retrocedent and misplaced gout more frequent. After the fit is over the patient may not have another attack of it for two or three years, & sometimes there is even a still longer interval; but, in all likelihood it will recur sooner or later, and that in spite of all care to prevent it. With each renewed attack the interval will shorten, happening perhaps annually and about the same season of the year.

As the disease advances & the fits increase in frequency, they do not leave so readily as they did at first. The fits by & by may come so close upon each other, that the patient

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patient will have little respite from them, except for a few weeks during the summer months.

At first the disease confines its attacks, in general, to one joint; but after successive seizures it extends first to both feet simultaneously, or in succession, then to the hands till at length no joint of the body is exempt from it. These subsequent seizures are attended with less pain, but with more constitutional disturbance than the primary ones. Also, after the earlier attacks the joints usually recover entirely their former strength and pliancy, and the patient may often express a feeling of being in better health and spirits than he had been for a long while previously. When however, the disorder has returned many times, the joints are not so quickly nor so completely restored to their previously healthful condition, but remain in a weak and stiff state until at length they may lose their capacity of motion altogether. The liquid matters which are effused in and around

around the affected joint during an attack, are, after the disease has repeatedly recurred, & in general when it has become of a more chronic nature - but imperfectly absorbed, leaving the solid material behind which hardens & forms bony excrescences on and around the extremities of the bones. When the deposition has once commenced, a new quantity will be deposited at each fresh attack, till at length the tumour may attain an enormous size; & by the increase of size, the skin becomes stretched over the earthy mass and often ulcerates.

In some rare instances the excretion of this matter takes place continually: in these cases the chalk stones have formed ulcers, and the secretion of the chalky material goes on from the bottom of these ulcers. Sometimes the matter will form a complete case around the affected joint, thereby, depriving it entirely of motion. It is remarkable that these deposits occur much more frequently in the hands than in the feet. The situations at which the elimination of this substance takes

takes place, are these; the articular surfaces of the bones; the exterior of the synovial membranes, as well articular, as bursal; tendons and ligaments; the subcutaneous tissue immediately around joints; the subcutaneous tissue over the cartilage of the ear, & those of the nose. The skin itself is believed to be affected similarly. These depositions when once formed are never absorbed, & may give rise to intense pain, requiring the application of soft poultices to assist in their extrusion. We will not meet with those concretions in every case of gout; for there are many persons who have suffered from it long and severely, in whom nothing of the kind can be found. They are incidental to the more chronic forms of the disorder, in which the pain & the fever though of long duration and frequent recurrence are comparatively slight in degree. These gouty concretions, or chalk stones as they have been named are found in their chemical composition to consist mainly of lactic acid combined with soda, in the form of the lactate of soda.

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The urine of gouty subjects is often in a very morbid state depositing large quantities of the lithate of soda, of which Dr. Prout observed "he has seen it so very copiously secreted, & of the consistence of mucus as to block up the urethra in its passage outwards." ~

### Of the Irregular Varieties of the Gout.

Gout is called regular or irregular according as it pursues or deviates from its ordinary course. The irregular varieties comprehend atonic gout, sometimes called masked or lurking gout; retrocedent or metastatic gout; and misplaced gout. And first as to -

#### atonic Gout.

When the gouty diathesis prevails in the system, but from certain causes does not produce the usual inflammatory affection of the joints, it will often appear in the form of an affection, of some internal organ. This may happen from the influence of causes calculated to fix an irritation in any one of the viscera, and

and thus to invite as it were the morbid tendencies of the system to concentrate themselves there. The term atonic has been given to this variety of gout, on a very questionable theory that the ~~the~~ system has not strength to throw out the disease.

We will require to refer - and as shortly as possible - to the disease as it occurs in the more important organs. The organs most frequently and prominently affected are probably the stomach and kidneys.

In the stomach it occurs in two distinct forms: the inflammatory and the nervous or functional.

In the first the symptoms are those of acute gastritis. If the pulse be not depressed by the state of nausea, which often accompanies the inflammatory form, it may have considerable volume and strength; but, if it be affected by the nausea, it may be slender and feeble, with a cold, pale, damp surface which may be mistaken for evidence of debility.

In the nervous or functional form there will be either violent spasm, or great distress, nausea and vomiting, according as the muscular

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a mucous coat is the seat of the irritation.  
There may be great prostration, with an  
alarming feebleness of the pulse and cold  
clammy sweats.

The Bowels are sometimes seized, in the  
form of a diarrhoea or colic.

The Kidneys are probably more frequently  
affected than any other internal organ.

Gravelly symptoms are not uncommon  
during the paroxysm, consequent upon the  
excess of uric acid or the urates in the urine.

The Liver is less frequently inflamed than function-  
ally deranged. Deficient, depraved or superabundant  
secretion of bile is among the most common internal  
derangements of the system in gout; so common indeed,  
that some there are who have supposed the disease to be  
essentially connected with hepatic disorder. Hence the  
clay coloured, soap-like, or green & offensive stools,  
of the bilious vomiting and purging, which often attend  
the gouty paroxysm.

When the lungs are affected we have symptoms of  
intense bronchial congestion, sometimes appearing, with  
difficult breathing, great anxiety and distress;  
a purplish or livid hue of the face & hands, a feeble  
pulse and coolness of the surface.

When the Heart is affected we have precordial oppression, dyspnoea, sharp pains and syncope more or less complete may be produced.

The Diaphragm is sometimes affected giving rise to the symptoms of rheumatism of the same organ.

The Brain is attacked, with the production of stupor, and occasionally of complete apoplexy or palsy.

The Eye has been affected with a most intense ophthalmia. In fine no one part of the system possessed of a capacity for the inflammatory process is entirely exempt. ~


### Misplaced Gout

is nothing more nor less than atonic gout, & by no means deserves a separate notice. ~

### Retrocedent Gout.

Gout at all stages of its progress, not un frequently retrocedes from the extremities to fix itself on some internal organ, or as has been seen it may attack one of those organs without having appeared externally. Retrocession may be caused by any thing which tends to extinguish the external inflammation, without at the same time correcting the general diathesis.

as for example the application of cold to the affected joint or part. Fatal metastasis has often taken place from this cause. I recollect of seeing an account of two young gentlemen somewhere, who had both been seized by an attack of true, regular gout, in the agony of the fit plunged their affected <sup>joint</sup> into cold water, with the immediate effect of the destruction of the disease in the foot; but in a short time, they were attacked with a most intense cerebral inflammation which shortly proved fatal.



### Nervous Gout.

This form of gout is sometimes quite distinct from the others; but it is in general more or less mingled with the constitutional cases which have been described, by various names, as irregular, atonic, moveable & chronic gout &c. It is apt to affect persons who have inherited a gouty cachexia, but from original temperament or abstemious habits, are little liable to inflammation. Women, and individuals generally of a nervous temperament who have descended from gouty ancestors, are very liable to it. There is reason to believe that it is much more common than formerly probably

probably in consequence of a greater temperance in the modern habits of life. It may be asked how the disease is known to be of a gouty nature. It may reasonably be expected to be so, when the persons affected have had gouty parents or grandparents, & no other cause can be detected. Its frequent intermissions or alternation with slight attacks, or abortive efforts at external inflammatory gout, raises the suspicion almost to certainty. I know a person who had been affected for a considerable <sup>time</sup>, with pains in the head and lobes of ear, which were entirely removed by an attack of gout in the stomach, but which returned again on the disappearance of this disease.

Nervous gout shows itself either in the form of simple neuralgic pains, or functional disorder. The pains may be dull and constant, or sharp, lancinating, and intermittent, & may occur in any part of the body. They attack one part and shift to another, without having any regularity in their course. The right iliac region, the precordial region extending to the left arm, the right side of the chest, & the scalp are not uncommon seats of it. Migraine is one of the forms which the disease often assumes. The severe shooting neuralgic pains are more especially apt to occur in the temples, cheeks, or front part of the upper and lower faces,

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though they may also attack the extremities, particularly the smaller joints, the generative organs, the anus, and any one of the viscera. Not infrequently the muscles are attacked, causing them to be exquisitely painful on contraction.

## Diagnosis of Gout.

Sometimes it is often impossible, in relation to the attacks of misplaced gout, to determine whether the inflammation is of the common kind or of gouty origin. But, one of these attacks occurring in a gouty person may often be suspected to be of the gouty kind and treated accordingly. The occurrence of a regular paroxysm of the disease - in its irregular seat - or the alternation of the two affections is the best diagnostic sign. Gout has been confounded with rheumatism, which, with proper care ought not to be. The chief distinctive marks of the two affections, are the following. In gout the limitation of the inflammatory redness to one foot, & the restless distress of the gouty patient, greatly contrast with the helpless and motionless condition of the rheumatic who is fixed in several limbs. A first assault of gout can hardly ever be confounded with an attack of acute rheumatism; but when the disease has become advanced & when


many

many joints have become involved, there will be more room for doubt. We may generally decide, however, by getting the history of the patient, and learning the circumstances of his earlier attacks. In gout, previous to an attack there are dyspeptic symptoms very generally; not so in rheumatism.

In gout the joints attacked the smaller joints; in rheumatism the larger. The inflammation of gout is attended with more oedema than in rheumatism, & is followed in the greater number of instances, by desquamation & itching, phenomena, which we do not notice at the close of rheumatic inflammation.

Gout usually affects one joint only, at a time; rheumatism often several at once. In the gout the joint affected is of a more intense red colour, & the remissions are more frequent than in rheumatism.

In gout there are none of these profuse acid sweats which we find in rheumatism. Gout is hereditary; acute rheumatism rarely so. Gout is very rare before puberty; whilst acute rheumatism is not uncommon in childhood. The heart affections so exceedingly common in acute rheumatism are comparatively rare in gout.



## Prognosis of the Gout.

Little need be said on this point here as its prognosis may be gathered from what we have said.

That which is generally called gout in the extremities is not a dangerous disease, provided no metastasis takes place: the inflammation which attacks the joints having no worse tendency than the thickening, or perhaps the chalk-like deposit, which it produces. But as gout is far from being constantly confined to the extremities, the life of a gouty individual is very properly considered insecure. When it does prove fatal, it does so by translocation of the disease to some vital part, such as the stomach, the heart, lungs & brain. All instances of those individuals, who have had the gout, are saddled with a larger premium than other persons who have not.

## Causes of Gout.

The most frequent cause of gout is impurity. This not only gives a predisposition, but is sufficient of itself, wholly without aid from other causes, even in opposition to whatever influences

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can be brought against it, to give rise to the disease. It does not follow that all the children of gouty parents must inherit the diathesis; on the contrary many escape entirely. Of 522 gouty persons, concerning whom Sir Charles Blandin collected information, 332 could trace their disease to the father, mother, grandfather, grandmother, uncle or aunt. Thus we see that the proportion of those affected is so great as to offer a strong warning, to all who are thus descended, to use every possible preventive measure.

Although the disease is so often hereditary, yet there is no doubt that the diathesis can be created. It is in general believed, that the most efficient causes in generating the gouty diathesis & consequently in promoting it when inherited, are the use of animal food in undue proportion, especially of high seasoned meats and soups, indulgence in alcoholic drinks and sedentary habits. Men who eat much meat generally indulge themselves in drinking also: the two causes go together & it is difficult to estimate their separate influence.

Butchers, who live fully upon animal diet, are said to be rarely affected by gout, but then they necessarily take a great deal of exercise. Vigorous exercise may, to a considerable extent, obviate the effects of high living, by using up the excess of blood in the support of the functions.

From the nature of the causes of gout, the disease would naturally be looked for among the wealthy and luxurious, or their descendants, and it certainly is much more common among the higher than the humbler ranks of life. We almost never hear of the gout among agricultural labourers. Persons in the lowest classes of society are found to be attacked by gout when they imitate the conduct of their superiors, as for instance the servants of wealthy families, who often live more luxuriously & more idly a great deal than their masters.

As to the influence of alcoholic drinks, though there is no difference of opinion as to the general fact, yet medical men are by no means agreed as to the varieties most apt

to produce the effect. Some have supposed that the light wine sometimes peculiarly predispose to the disease. It is most probable that the use of them will bring on a paroxysm in those who have the diathesis, more quickly than the stronger wines, perhaps by irritating the stomach; but it is certainly not the fact that they are more apt to generate the diathesis; for the agricultural classes of France, who use the lighter wines often as their common drink, are said to be almost wholly exempt from the disease. Thus we see that the lighter wines may & do act, as an exciting cause, but will not produce the predisposition.

It appears that the use of <sup>the stronger wines &</sup> malt liquors, fosters the disposition to gout much more than the abuse of distilled spirits. The paucity of gouty patients among the gin-drinkers of London suffices to show this. Distilled liquors, when freely indulged in, though they sometimes contribute to the production of gout, appear generally to exhaust the excitability of the system below the point requisite for the development of that disease & conduce rather to internal visceral disorders.

disorder, with a tendency to the mania of drinkers. Much and severe exercise, in persons who use strong drinks to great excess, is so far from warding off the disease - as they would do in moderate drinkers - have rather a tendency to generate it, by sustaining a certain degree of energy in the system, which seems requisite for the right developement of the diathesis. In some persons, the inbred gouty tendency may be so strong, as not to be kept in check by the greatest abstemiousness.

Gout is found to attack more especially the male sex. Women, when attacked by it are generally of a strong, robust and plethoric habit.

Gout for the most part occurs between the ages of 30 and 40. Its occurrence before the age of puberty is rare, but by no means unexampled, and many instances are recorded.

The exciting causes of a paroxysm of gout, are exceedingly numerous. An unusually severe debauch; strong mental emotion, especially of a depressing nature; excessive fatigue &c are all liable to bring on an attack.

Another

On special occasion of the Midway in  
the relation to you and the special function,

Another exciting cause, which frequently operates is external injury: such as falls, sprains, bruises &c. A severe sprain often leaves behind it a condition of the joint, which long after determines it as the seat of an attack of gout, in a gouty individual. A first attack of gout often fixes on the seat of an old hurt. In fine, whatever disturbs the condition of health, whether it be of an excitant or debilitating character, is capable of bringing on an attack.

## Pathology of Gout.

Gout is now generally considered as a disease of the blood, and depending on a peculiar morbid material circulating in that fluid.

This is the now generally received opinion, and all research seems clearly to tend to it.

It may not be wrong for us here, shortly to state what we mean by blood diseases.

In them, a morbid material is generated by an abnormal chemical action in the blood itself. This morbid element may be formed either primarily in the blood, in consequence of some check given to one or more of the ordinary excretions, or from the supply of nutrient material to the blood being too great for the rate at which excretion is carried on; or, it may have been introduced into the blood as a poison, which continually deranges the normal changes which are continually going on within it.

In truth, it seems quite impossible to explain the phenomena of gout upon any other hypothesis than that which supposes the existence of a peculiar morbid matter in the blood. We cannot regard it as a local affection: such a supposition will not explain its sudden shifting from one place to another, nor the simultaneous affection of several joints, nor the constitutional disturbance which precedes a gouty attack; still less will it account for the transi

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train of morbid symptoms, the aggregate of which constitute the gouty diathesis. In short, all textures, and all parts which the blood visits are liable to be attacked by gout. A fact, in favour of this doctrine is this, that gout is always at first, connected with defective assimilation, and imperfect excretion; two conditions eminently calculated to impair the quality of the blood, by introducing into it some morbid element on the one hand, and obstructing the elimination of some principle - which is usually excreted from it - on the other. In a person of a gouty habit of body, as long as the molecular changes in which nutrition and secretion consist go on vigorously, a paroxysm is most likely to occur. An inflammatory or plethoric state of the system, such as may be brought on by too high living, is unfavourable to perfect excretion, and a depressed state of system is equally adverse to both nutrition and excretion. Hence, in either of those states, the conditions may exist which would favour the accumulation of a morbid matter in the blood. Dr. Holland expresses his  
Belief

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Def belief in a "metuus morbi", which, whatever its nature is capable of accumulation in the system, of change of place within the body, & removal from it.

Patients of a gouty habit often pass large quantities of lithic acid by the urine. And this frequent concurrence of a lithic acid diathesis with a gouty one, has long attracted the attention of pathologists. There can be no doubt, but that the same causes which will favour the development of the lithic acid diathesis will also promote the gouty one. Indolence, good living, want of exercise, deficient cutaneous action, are equally favourable to the production of both states of constitution. And, it is also certain, that the lithic acid diathesis is that which passes most readily into the gouty. The presence of an undue quantity of lithic acid in the system, even though accompanied with the formation of a free acid, is not sufficient to account for the phenomena of gout. For we meet with many instances in which these conditions are present, even for a considerable period, without giving rise to any symptom of gout. Brick-dust sediments are among the most common of those found in the <sup>urine</sup>; a slight disturbance

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of the digestive process or a febrile cold, being sufficient to increase the quantity of lactic acid.

Dr. Garrod has demonstrated the existence of uric acid in the blood of gouty patients.

It seems most probable that this substance is produced at the expense of the urea; in which form the greater part of the effete nitrogenized tissues of the body are, in the normal state thrown out of the system. The increased formation of uric acid in gout is important in many points of view. In the first place, it forms in conjunction with soda (urate of soda) a great proportion of certain concretions, which, under the name of chalk stones, have long been known to attend the ultimate disorganization of gouty joints. It also constitutes one form of gravel, or urinary calculus; an affection to which the gouty are especially subject, & which often leads to most distressing symptoms. We cannot yet state with certainty what is the true cause or *matris mobilis* of gout. But it appears probable, that the peculiar gouty matter is in the first instance derived from the stomach & duodenum, inasmuch as the disturbance of the functions of these parts are an invariable antecedent

or

or accompaniment of the gout. And as such  
diseases are generally accompanied with an  
undue development of lactic acid, it seems fair  
to conclude that it may be the primary disturbing  
agent. Also, the habits of life of those, in whom the  
gouty diathesis occurs, are such as to favour the  
generation of lactic acid. And as the liver in those  
cases performs its function imperfectly it is possible  
that the soda may not be properly excreted from  
the blood, but accumulate in that fluid to unite  
with the lactic acid. The chemist Berthollet  
found, that the skin of a part affected with gouty  
inflammation, communicated instantly to litmus  
paper a deep red colour; a large quantity of acid  
was evidently passing off by exhalation from the  
inflamed surface. When a paroxysm occurs, if the  
poison be too copious to expand itself on one joint,  
it attacks another, or several at once.

The seizure of the disorder on a particular joint,  
is often determined by a recent blow or sprain, or  
by the chronic weakness consequent of a previous  
injury. If the inflammation be in any way driven  
from the foot, the poison is sent again into the  
blood, and may seize on some vital organ, placing  
the patient's life in great danger.

# Treatment of the Gout.

The treatment of a gouty patient naturally divides itself into that necessary during the paroxysm & that ~~between~~ <sup>during</sup> the intervals.

The mode of treatment best suited for the paroxysm of gout is easily understood; our object being to relieve the patient's sufferings as speedily as we can, without interfering with the proper elimination of the gouty matter.

We must remember that the natural course of the gouty paroxysm tends to a spontaneous cure in the vast majority of cases, and that it is itself a means for the elimination of the gouty matter from the system. We have for the paroxysm of gout a certain remedy in Colchicum. There are various preparations of this drug; but the one commonly in use for Gout is the Vinum colchici. The mode of administering it is in the following way. At bedtime, 40 or 60 minims of the wine, in a saline purgative draught should be taken;

and half a drachm more, in a warm black  
dose, the following morning; if the gout  
continue this should be repeated in the same  
manner. In this way the pain is calmed, &  
the swelling reduced in a few days; or even in  
a few hours. In the intervals, <sup>the activity of</sup> those emunctories,  
through which we would direct the elimination  
of the gouty matter, should be promoted.

In the use of purgatives, care should be taken  
to employ only mild ones. Draotics should  
never be given, as, by excessively irritating the  
intestinal canal, the gouty matter might be  
attracted from the external parts.

The local treatment of an acute gouty fit,  
is simply to keep the part warm, by rolling  
it in flannel or cotton-wool. After the more  
acute stage has subsided, much ease &  
comfort will often follow the application  
of warm fomentations to the part, and some-  
times the lotion, recommended by Dr Charles  
Boudanore, consisting of alcohol & camphor,  
may be applied warm with much benefit.  
Cold applications and leeching are never to be  
employed, being liable to be productive of the  
very worst consequences. Stimulants are

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to be avoided; and solid food, whether animal or vegetable, should be taken in very sparing quantity. R

The treatment of the gouty diathesis resolves itself into how we are to prevent the return of gout in a patient who has once had it, & how we are to prevent a paroxysm from taking place in an individual predisposed to it. The same treatment of course does for both. That the gouty diathesis may be greatly modified, or even altogether removed, experience affords abundant proof, in opposition to the opinion of the celebrated Cullen. There is no disease in which the patient can do so much for himself, or in which the prescriptions of the physician are of so little avail without the full & complete co-operation of the patient, as gout. Those persons who have once had an attack of gout, or who are predisposed to it, must resolutely abstain from rich living, and from wine & strong drinks of all kinds; and in this way if ever they have an attack of gout, it will be comparatively slight and feeble. The patient must also partake sparingly of animal food.

But starving, the disease won't cure it. An animal and vegetable diet should be used; the point being to take good care that, both as regards quantity and quality, the stomach can digest, & can consequently extract healthy chyle from the materials put into it. Spirits & ~~the~~ beer & heavy wines, especially port, are injurious & should be abstained from.

And as to exercise: the young & vigorous can scarcely take too much; but the old & feeble, by one act of over-exertion, may incur the penalty of an attack. The exercise should never be violent; but it should be daily. No mode of exercise is so good as that of walking; & with this may be beneficially combined riding on horseback.

All severe mental application should be avoided; and the observance of early and regular hours are of much importance.

When gout attacks the stomach, either by accession or primarily, it often proves rapidly & suddenly fatal. The attack is not, in general, of an inflammatory nature. The symptoms consist of a violent pain, & a sense of weight or constriction in the epigastrium, with sickness, vomiting,

and a disposition to faint.

It will always be well when symptoms like these occur, to inquire whether any indigestible food has been taken, & if so to get rid of it.

The treatment consists in the use of turpentine ~~and~~ stupes or sinapians to the epigastrium, with the internal use of antacids; magnesia in full doses combined with rhubarb.

If these fail opium may be given, with a little sulphuric ether. If the opium be vomited opiate enemata may be thrown up the bowels. In some cases, a little brandy & water will instantly relieve the symptoms.

As a general rule whenever gout fixes itself on an internal organ, we will find it our duty to endeavour to excite the disease, in the foot, & thus draw as it were the disease from the interior. For this purpose the application of sinapians to the feet, is all that is necessary.

