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Inaugural Dissertation

on

Puerperal Fever

by

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Inaugural Dissertation on Puerperal Fever

The term puerperal fever has been employed to distinguish the most fatal disease to which women in child-bed are liable. An affection of such severity has naturally attracted the attention of those engaged in the practice of midwifery and accordingly numerous treatises and papers have been published professing to describe its etiology, pathology and treatment. Our information, however has not been increased in proportion to the works written on the subject, and in the description of few diseases do we find more contradictions both in facts and opinions.

In some instances practitioners blazon forth the successful results of their practice while in others they lament the unfortunate issue of their most

strenuous exertions. No might be expected the treatment differed, but what appears at first sight most extraordinary is, that contradictory accounts have been given of the effects of the different remedies employed. When however we consider that the descriptions of the disease given by various writers by no means correspond, we find to a certain extent an explanation of their statements respecting the different plans of treatment and have the conclusion forced upon us that under the term puerperal fever, authors have described a multiplicity of affections incident to the parturient state. In these circumstances it may not be out of place to take a rapid view of the various opinions and facts stated by the principal writers on the subject, to consider whether the disease be in reality a fever sui generis and if so, its symptoms, causes, pathology, and treatment.

The first writer whose work I shall notice is Dr Nathaniel Hulme, physician to the London Lying-in Hospital who published a small volume on the subject in 1772.

Dr Hulme has been at great pains to collect from the writings of previous authors every thing which seemed to bear upon the subject and accordingly I shall avail myself of his work in noting those

affections in ancient times which authors in the present day have brought forward in support of their doctrines.

(On reviewing the passages quoted by him from Hippocrates, Avicenna, Plater, Sennertus, Riverius, Willis, Sylvius De le Boer, Mauriceau, Sydenham, and Boerhaave we find them to describe merely the constitutional symptoms attending inflammation of the peritoneum, intestines, and uterus in lying in women, aggravated by the treatment of women in childbed adopted in those times.

The disease described by Boerhaave, Grother who first used the term puerperal fever, Hoffman and De la Motte is not a fever *sci generis* but the constitutional irritation or symptomatic fever arising from some inflammatory affection involving the uterus and peritoneum and attended with suppression of the lochia. Under the name of puerperal fever Burton Astruc and Smellie seem to have described inflammation of the uterus; and Tissot, Van Swieten and Astruc the various constitutional symptoms arising from the inflammatory affections incident to the puerperal state. The disease described by Cooper and Simmons is inflammation of the uterus.

I have now reached the year 1769 when Dr R. W. Johnstone's *Treatise on Midwifery* appeared. Under the head of suppression of the lochia he

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treats of puerperal fevers though in such a manner
as to show that he was confounding different affections
under one name.

Dr Millar in his observations on the prevailing
diseases of Great Britain classes puerperal fever with
those which partake both of a putrid and an inflamma-
tory nature and thus far agrees with Dr Hamilton,
though he seems to have confounded the affection to
a certain extent, with others incident to women in
childbed. His words are. "The changes which the
humours naturally undergo in women, during their
pregnancy, render them more liable to the contagion
of putrid diseases; while the circumstances attending
childbed produce inflammatory symptoms, and hence
often arises a complicated fever, the most dangerous
and difficult of cure of any which falls under the
direction of the physician. When a woman in child
bed is seized with a remitting fever, if there is no
irregularity in the usual evacuations, the symptoms
are nearly the same as those which were already
described in treating of that disease; but her particular
situation renders it more dangerous. If the usual
evacuations are suppressed, the fever partakes more
of inflammation, and is attended with particular
symptoms which require a peculiar treatment.

But the puerperal fever is much oftener occasioned by the opposite extreme; yet that natural evacuation is not too rashly to be pronounced excessive, since it is wisely intended to prevent the evil consequences which might arise from inflammation, or from obstruction in the vessels."

Dr Henry Manning in his treatise on female diseases gives the following view of the disease. "From all the most accurate accounts of this disease, and from the period at which it generally commences, there is reason to conclude, that it owes its rise more immediately to accidents after delivery: for it is allowed, that it may follow a labour under the best and most desirable circumstances; though endeavours to dilate the os internum, are supposed frequently to produce it. The more immediate causes generally assigned by authors, are a stoppage of perspiration, too free an use of spices, and the neglect of procuring stools after delivery; sudden frights, too hasty a separation of the placenta, and binding the abdomen too tight. The putrid appearances, however, which this disease so soon assumes, affords ground to suspect, that the predisposing cause of it is a vitiated state of the humours; for it is generally observed to be most prevalent in an unhealthy season, and among women of a weakly and scorbutic constitution."

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I now come to the consideration of Dr Kulm's own views. In the first chapter of his treatise which he devotes to the description of puerperal fever, he states that the disease commences on the first second or third day after delivery and presents the following symptoms; rigors more or less severe, headache, confined chiefly to the forehead and parts about the eyebrows, and frequently attended with vertigo and want of sleep; the skin generally hot and dry, sometimes cool and temperate, and moistened with intermediate sweats; pain and soreness of the whole hypogastric region sometimes so acute as to render the slightest touch insufferable; the abdomen soft and sometimes greatly swollen; great thirst; the tongue at first white but seldom foul, and soft and moist to the touch, generally before death becoming dry and rough, and assuming a dark brown colour often with a mixture of yellow; a greater or less affection of the breathing proportioned to the swelling and pain of the abdomen; pulse in general quick and weak, sometimes offering considerable resistance to the finger, at first seldom less than a hundred and gradually increasing ~~till~~ in frequency and weakness till before death it can scarcely be counted; general

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anxiety and dejection of mind apparent in the countenance; the face often flushed, the cheeks occasionally appearing of a deep red or livid colour. Besides these, he states that in severe cases the patient generally lies on her back and seldom turns on her side or belly. Vomiting with oppression and sickness at the stomach though not always present are very frequent, and the matter ejected is commonly either yellow, green or of a blackish hue. It sometimes precedes or comes immediately after delivery. As death approaches the patient rejects every thing she swallows and what is brought up is generally either green or black. At first the bowels are costive, sometimes natural, and at other times a diarrhoea comes on. When the last occurs the discharge is of a dark brown colour and very fetid, though sometimes the stools are covered with a whitish froth. In all cases there is considerable flatulence in the bowels. Involuntary stools are usually the harbingers of death.

The patient frequently at first complains of difficulty in making water, which is discharged in small quantities, but this generally goes off after the bowels have been moved once or twice.

The wine after standing for some time generally appears of a brown colour and deposits a crude sediment half floating at the bottom of the glass. He cautions the physicians against mistaking the red appearance of the wine occasioned by a mixture with the lochia, for the result of inflammation. Should the disease abate the wine becomes turbid, usually of a yellowish or clay colour not unlike a decoction of peruvian bark when cold, ^{it} deposits a thick yellowish sediment frequently with a mixture of purple. When the disease ends unfavourably the wine generally continues pretty much the same to the last. "The lochia" he observes, "or usual discharges after delivery, commonly lose their florid complexion, and diminish in quantity; but if the disease goes off soon, the natural flow generally returns. Sometimes, indeed, there seems to be very little change made, with respect to the flow of the lochia. The discharge will, now and then, appear quite black.

The patient, in general, does not complain so much of want of milk, during the progress of the disease, as to prevent her suckling her child; however the contrary will sometimes happen,

especially if it be very violent, or a diarrhoea attend and the stools be thin and watery."

Delirium seldom comes on except a few hours before death. The blood when abstracted is generally ropy with a quantity of yellow serum. When the disease ends favorably the fever terminates in three, four, or five, days, from its commencement. When it resists the efforts of nature and art, it generally proves fatal in the fifth, sixth, seventh, eighth, ninth, tenth, eleventh or twelfth day, after delivery.

In reviewing Dr Keulme's description of the symptoms of the disease, and that given by Dr Hamilton, we cannot help remarking a striking coincidence, with the exception of one point, the alteration in the quantity and quality of the lochia, which he states occurs in some cases. Now I think this may be easily explained by supposing Dr Keulme to have occasionally mistaken a case of puerperal peritonitis for puerperal fever. On examining the six cases of which he has given dissections, I find that he has mentioned the state of the lochia in one only, the sixth. In this instance he states that "the lochia for the first two or three days of her disorder were of a proper colour and in

sufficient quantity; afterwards they diminished in both, but never quite left her till she died." As in the other cases he has taken no notice of the discharge, it is but fair to presume that it was not altered.

Dr Leake, whose description ought perhaps to have been given before that of Dr Hulme, since he had promulgated his opinions some years before the work of the latter made its appearance, states most distinctly and prints his statement in Italics, that the lochia from first to last were neither obstructed nor deficient in quantity and his description in other respects tallies with that given by Dr Hamilton.

Dr John Clarke in his Essay on the epidemic of lying-in women of the years 1787 & 1788 after alluding to its great fatality, observed, that it differed from every disease which had been described as attaching women in the parturient state, and that though it was more analogous to the disease denominated puerperal fever, the nature of its attack, its general progress, and the manner of its termination, seemed to shew that it was a different disease.

The fever generally came on, on the second

or third day after delivery. In some instances the patient never recovered from the fatigue of her labour, and in others, though very rarely, she was seized so late as the eighth day.

Dr Clarke saw no case in which the disease began with rigors, and if any occurred, they must have been too slight to attract the attention of the patient or her attendants.

Many of the patients refused to suckle their children, and in most cases the quantity of milk was diminished. At the very outset of the disease, the countenance assumed a peculiar appearance, becoming pale and ghastly, and as if there had been a general relaxation of all the muscles of the face. The lips and angles of the eyes lost their florid red colour, and the cheeks and rest of the face acquired a cadaverous hue, the cast of features resembling that of a patient worn out by diseases of long standing. A clammy moisture appeared on the face. The pupils were usually much dilated, but contracted on exposure to a strong light. The eyes soon lost their lustre, and acquired a glassy appearance. The tongue at first was generally pale but not dry, and frequently continued in the

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same state through the whole affection. More frequently however it became afterwards dry and white, and in some instances very rough. In more severe cases the tongue after some days became brown, and the surface of the teeth incrustrated with fur of the same colour.

The skin of the rest of the body was in nearly the same state as that of the face, appearing to the feeling more relaxed than it is in health, and being sometimes moistened with a clammy dew. The heat of the surface did not commonly appear to be greater than usual, either to the patient or her attendants, and in these cases where it was thought to be so by the latter, it passed unnoticed by the former.

The circulation from the very first was affected, the pulse being from 110 to 130 at the commencement. As the disease advanced the pulse became more frequent and irregular especially before death.

The abdomen was always affected, pain being felt sometimes at the beginning, at other times at a more advanced period of the disease. This was in general followed by more or less

swelling), and when the tumefaction was great, the respiration became short and laborious

The bowels were generally at first unaffected, but afterwards, usually on the third or fourth day, though sometimes later, diarrhoea supervened, and occasionally the faeces came away without the consciousness of the patient.

The state of the urine he could not describe from its being mixed with some portion of the uterine discharges. This would seem to indicate that the lochia continued to flow, though he afterwards tells us that they were sometimes suppressed or diminished, and when this did not occur, they acquired a very offensive smell.

Vomiting not un frequently came on about the same time as the diarrhoea, and occasionally to such a degree that nothing would remain on the stomach.

The vital energy was manifestly diminished, and hence at an early period the muscular powers were very much depressed, and in the later stages both sensibility and irritability were much impaired. Violent delirium seldom occurred, The

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patient more frequently fell into a low
comatose state, and yet when roused gave,
up to the last moment, tolerably clear and
rational answers to questions.

On considering the description of
the disease given by Dr Clarke, I think
that there can be but little doubt that it
was the same affection as that described
by Dr Keilme, Dr Leake, Dr Hamilton
and others as purpurial fever. This view
is supported by what he observed respecting
the predisposing and occasional causes
of the disease, the rapidity of its course,
and the effects of different remedies, to
which I shall have hereafter occasion to
allude.

The opinion entertained by Mr. White of
Manchester and the description which
he has left of the disease is exceedingly
unsatisfactory, from his confounding
different after affections under the same name

Dr Clarke of Dublin describes a
true purpurial fever, occurring as an
epidemic extremely fatal in Hospitals,
and distinguished by the lochia continuing

to flow. Hunter, Gordon, Armstrong, Hey, Ramsbotham, Campbell, Macintosh, and almost all the modern French writers denying the existence of puerperal fever as an affection sui generis, maintain that it is mere peritonitis or metritis, aggravated by improper treatment, and have treated not a little severely those who entertain a different opinion. There can be no doubt that the disease described by them was generally peritonitis, and the treatment which most of them adopted was judicious, but their papers and works prove that they either never had seen puerperal fever, or only a very few cases which they confounded with peritonitis, not that such a disease does not exist.

I shall mention the views of only two other writers, and then conclude these introductory remarks. The first is that of Dr Cusack of Dublin published in the 97th number of the Edinburgh Medical and Surgical Journal. He conceives that there are three species of this affection, the first of a decidedly inflammatory character

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situated in the peritoneum, and presenting all the symptoms of acute inflammation of serous membranes; the second consisting of inflammation of a low character, confined chiefly to the subserous and pelvic cellular tissue, accompanied with great prostration of strength, and low typhoid fever; and the third of inflammation, of a character intermediate between the first and second, resembling both in some particulars, and differing from them in others. These different forms which he imagines to constitute the diseases described by authors as puerperal ^{fever}, he discusses at length. It is unnecessary here to enter into a consideration of his views, as it is quite evident that he is not describing puerperal fever, of which he has probably not seen a case, but a disease of the existence of which there is no dispute, and which will appear in ^{various} forms according to the condition of the patient.

The opinion of Dr Lee is that inflammation of the uterus and its

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appendages, must be considered as essentially the cause of all the destructive febrile affections which follow parturition, and that the various forms which they assume in a great measure depend on whether the serous, muscular, or venous tissue, of the organ has become affected.

That such affections may be found on opening the bodies of those who have died of the fever which I am now discussing, there can be no doubt, but that does not prove that they were the primary cause of it, still less that any of them is the proximate cause. Dr Lee is quite correct in saying that all the diseases which he has mentioned, have been described as puerperal fever by authors. They have done so however from ignorance, and he has by no means shown that that affection denominated puerperal fever, in which the lochia are not suppressed, is owing to inflammation of any one of the tissues which enter into the composition of the uterus.

From the brief sketch then, which I have given above, it would appear that

though medical writers have described various inflammatory affections as puerperal fever, there is one disease of a very different nature to which the term ought to be restricted, and which I shall now proceed to describe.

Malignant puerperal fever commonly appears within the first four days after delivery, and is ushered in by rigors more or less severe, and occasionally by vomiting of a bilious matter, followed by more or less pain of the belly, uneasiness or pain in the forehead especially in the supra orbital region, frequency of the pulse, and a countenance strongly expressive of anxiety. Soon after these symptoms have appeared the abdomen is swollen and intolerant of pressure. The breathing is short rather than laboured, as if the patient were afraid of taking a full inspiration. The affection of the respiration is proportioned to the degree of pain and swelling.

There is great watchfulness, the face is somewhat flushed, and the eyes sunk. The state of the skin varies; being in some

cases of the usual temperature, more frequently hot and dry, and occasionally, though rarely, partially moistened with a clammy sweat.

The lochia continues to flow as usual, or if, in some cases altered either in quantity or quality, this is only towards the end of the disease. Sometimes there is an imperfect secretion of milk. There is usually thirst, though the patient seldom complains in consequence of her being unwilling to be disturbed.

Soon after the attack, spontaneous diarrhoea comes on, followed by relief of the symptoms, and especially by the abdomen becoming less swollen, and the breathing less affected. This however in general is but a fallacious appearance of amendment, for very soon the pain in the abdomen returns, sometimes preceded by a rigor or two, and always followed by increased swelling, and a corresponding affection of the breathing. The pain shifts from one place to another, and when it affects the chest, the patient is tormented with a harassing cough.

The pulse is always at first rapid and increased in frequency according to the progress of the disease. At first it varied from 100 to 110; during the second and third days after the relapse alluded to above; it is from 120 to 130; and after that it can scarcely be counted.

The strength is rapidly exhausted and in most cases the patient sinks within the fifth or sixth day after the attack. Vomiting of a coffee coloured fluid in various quantities occurs for a few hours before death. Having thus rapidly sketched the symptoms and progress of the disease, I may be permitted to state briefly the symptoms under general heads.

X a. Period of accession. Purpural fever generally comes on the evening of the second or beginning of the third day after delivery, but it may attack the patient twenty-four hours after delivery, and in rare cases it has been known to appear as late as the fifth and sixth days.

b. Rigors The severity and duration of the cold stage varies in different women. In

some it lasts for nearly an hour so intensely as to shake the body; in others again, there is more of a thrilling or a degree of chilliness of the skin, going and coming at uncertain intervals. In the young and vigorous though the rigor be severe, it is sometimes of short duration. Neither the severity nor the duration of the cold stage indicates any thing respecting the course of the fever. Headache makes its appearance at the first, and continues during the whole disease.

c. Sensorium and vital powers.— Most patients are sensible to the last, though in some few cases low delirium precedes death. There is however always great dejection, and indifference to surrounding objects, and the sufferer lies in a low and somewhat insensible state, unwilling to make any effort or to be disturbed. Even the presence of her child scarcely interests her. There is at first considerable restlessness, and the patient seldom sleeps at all, or if she does, only for a few minutes. From the beginning there is great prostration of strength, which is aggravated as the disease advances.

d. Circulation.— The pulse varies from Ninety to one hundred and sixty and is always more rapid in proportion to the progress which the fever has made. It is generally weak, though according to Huxham in some few cases it resists the finger pretty strongly. In the cold stage it is quick and small, and the pulsations so feeble and indistinct as to be with difficulty numbered. In the hot stage it is fuller and more distinct, and only in some few cases when the patients were young and robust, has it ever been hard or strong. In the last stages it is so weak and rapid that the medical attendant will find it difficult or impossible to ascertain its rate.

e. Respiration. The respiration is short as if the patient did not dare to take a full breath, and this effect is in all cases proportioned to the pain and swelling of the abdomen. In some few patients it would appear that the lungs themselves were diseased, but this can be looked upon merely as a complication and must not be taken into account in estimating the symptoms generally.

f. Skin.— After the cold stage, the skin is

generally hot and dry, but occasionally as Dr Hulme observes, so cool and temperate that a person from thence could hardly know whether the patient laboured under any disease or not. Sometimes, though rarely, partial clammy sweats occur in different parts of the body, Some authors have mentioned petechia, and military eruptions. But in such cases the disease must have been typhus or military and not the malignant purpurial fever which I am now describing.

g. - Appearance of the patient. During the cold stage the countenance is pale in proportion to the severity of the fit. The face has an expression of great anxiety, and afterwards is marked by a degree of flushing while the eyes are sunk. In some severe cases after the swelling of the abdomen the patient has a wild distressed eager countenance, to use the words of Leake, and a trembling hand. A local crimson colour appears in the cheeks, the lips become livid and the nostrils tense and expanded. Such symptoms forebode death. There is always more or less swelling of the abdomen.

2. Pain.— Pain in the supra-orbital region is a very early symptom which continues during the whole course of the disease. The pain in the abdomen according to Leake is generally confined to the epigastric and abdominal regions the least pressure upon which is intolerable, while considerable pressure may be made over the pubes without producing uneasiness. According to Hulme however "though the pain of the belly be general, yet it commonly affects some one part in particular more than another. Sometimes the chief seat of pain will be in both the iliac regions; sometimes in one more than the other. At one time the regions of the os pubis, or groin, will be the chief seat; at another, a violent pain will fix across the pit of the stomach, and strike through the short ribs, on each side, down to the spine. The pains will often put on the appearance of labour-pains, and shoot from the loins and belly into the groin and thighs. They are then generally mistaken, by the patient and her attendants, for after-pains, and being neglected, the disease quickly gains strength, and proves by this means, too

often fatal. When the pain lodges about the pubes, or groin, it will sometimes affect the anus, and neck of the bladder. But there is seldom any sense of heat, or throbbing pain, in the region of the vagina: and whenever this does happen, it is probably owing to a different cause." When the pain shifts from the abdomen to the chest it is always accompanied by a harassing cough.

i. Tongue.— At the commencement the tongue is seldom black or foul, but as the disease advances becomes white and dry, and at last harsh and of a brownish colour towards the root where it is coated with inspissated yellow mucus.

j. Hunger and thirst.— There is rarely even a slight desire for food; most frequently the patient will refuse the simplest food offered. The thirst is usually great, and when it does not appear to be so, it is owing to the languid state of the patient rendering her indifferent to her feelings; and hence it is necessary for the attendants to be careful to give her drink from time to time, although she should express no desire for it.

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R. — Stomach and Bowels. — Vomiting if it does not precede the disease, always comes on at the commencement, and the fluid rejected from the stomach is yellow andropy, sometimes green and even dark. In the advanced stage again it is always watery and dark, and has been compared to coffee grounds. The vomiting always relieves the oppression at the stomach. Diarrhea always comes on within a few hours after the attack. At first the stools are generally yellow frothy and mixed with mucus. In some cases they are greenish, and towards the end of the disease, especially when they are passed involuntarily, they are blackish foetid and watery, and compared by Leake to moss water. Dr Hamilton states that the spontaneous diarrhea is followed by relief of the symptoms and especially by subsidence of the belly, and a corresponding favorable change in the state of the breathing though a relapse in general soon takes place. Some of Dr Leake's patients had eight or ten evacuations within six or eight hours, which were followed by short

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intervals of ease, but neither the pulse, thirst nor any of the febrile symptoms were in the least abated by the discharge, profuse and frequent though it was.

V. Urine.— From the urine being mixed with the uterine discharges it is not easy to ascertain the nature of it. Occasionally according to Leake, often according to Hulme at the commencement there is difficulty in making water. This according to the former is merely accidental and not peculiar to the disease, for it frequently happens after severe labours. The urine ^{is} generally diminished in quantity.

VI. Lochia.— The Lochia according to Dr Leake from first to last are neither obstructed nor deficient in quantity and according to Dr Hamilton they are not altered in appearance. Dr Hulme states they are altered in both; but on examining the only case in the account of which he has taken any notice of them, and that, ^{merely} in reference to the urine, he speaks of their diminution. In his other cases they are not referred to. I believe that if at any time they are altered in quantity or quality it will be

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at the end of the disease when the uterus may be secondarily affected, as other organs are in other fevers.

v. Milk.— According to Dr Leake the secretion of milk was generally interrupted by the accession of the cold stage. Sometimes it was almost altogether taken away and at other times it continued in a moderate degree for several days and even till within a short time of the patient's death. Dr Keulme again says that "the patient, in general, does not complain so much of want of milk during the progress of this disease, as to prevent her suckling her child; however the contrary will sometimes happen, especially if it be very violent, or a diarrhoea attend, and the stools be thin and watery." Dr Hamilton observed that sometimes an imperfect secretion of milk begins.

Comparing the symptoms which I have now detailed with those of other diseases it appears that puerperal fever may very easily be confounded with some of those inflammatory affections

which occur after delivery. The diseases with which it is most likely to be confounded are enteritis, peritonitis and metritis from which it may be distinguished by the lochia continuing to flow, by the condition of the abdominal tumour, by the appearance of the countenance, by the state of the breathing and by the pulse. The differences between the three are thus pointed out by Mr. Moir

"The marks of distinction are the following:

First. Sudden violent pain in the abdomen, preceded by rigor, occurring during the first four or five days after delivery, if accompanied by tension of the parietes, increased heat of the surface, and total suppression or great diminution of the lochia, with very frequent pulse, viz 120 to 160 per minute mark peritoneal inflammation.

Secondly. Violent pain in the belly, with nausea preceded by rigors, followed by hot skin, very frequent pulse, that is from 120 to 140 in the minute, (from the commencement of the hot fit), and accompanied with suppression of the lochia, relaxed parietes of the abdomen, and distinct bulk, hardness

and exquisite tenderness of the uterus, denote clearly inflammation of the womb.

Thirdly. Pain of the belly, especially at particular parts, aggravated by pressure, with but little tension, coming on gradually, attended with nausea and obstinate consti-
ness; and no affection of the breathing, nor pain of the forehead, nor alteration in the state of the lochia; may be considered as evidences of an inflammatory affection of some part of the alimentary canal.

Lastly. Rigors followed by heat of the skin, slight frequency of the pulse, (viz from 100 to 110, or at the utmost 120), pain and tension of the belly, pain over the forehead, uneasi-
ness of breathing, no obvious change in the lochial discharge and such a state of the bowels, that diarrhoea either occurs spontaneously soon after the attack, or it is easily excited by artificial means, — constitute the leading characters by which the Purpural Fever of Hospitals can be discriminated."

The prognosis in this disease is always doubtful. When it proves epidemic in

hospitals not more than one in five survive. The disease however is not so fatal in private practice probably owing to the patients being in better health and their minds unharassed by those sources of misery to which so many of the patients in lying-in Hospitals are exposed. The circumstances in which a favorable prognosis may be formed are, the pulse becoming slower and the breathing fuller and freer. All the remissions which occasionally happen are delusive unless accompanied by a steady abatement of the pulse. "If" says Dr Hulme "the pulse does but once begin to become daily slower and slower, as from one hundred and twenty eight to one hundred and twelve, then to one hundred, or the like, it is to be esteemed as one of the best signs, but if it continue at the same number, or rather quicken, it always threatens danger; or if it be found changeable, being one day quicker and another day slower, it is ever to be suspected. Nay so infallible is the beat of the pulse, with respect to

number, that though all the other symptoms should abate, and the disease seem to be gone off, yet if the pulsation do not decrease in proportion, a relapse, or some other disorder, is to be feared." The longer the disease has gone on, the more unfavorable is the prognosis. Diarrhoea with an abatement of the frequency of the pulse is a favorable, without thus, an unfavorable symptom. General perspiration attended with turbid urine and a slower pulse indicates a remission of the disease; partial sweats offer no encouragement. The unfavorable symptoms are increasing rapidity of the pulse, urgent diarrhoea with feculent matter of the colour of soap water, a fixed crimson hue in the cheeks with livid lips, or a livid colour of the countenance, and the vomiting of matter like coffee grounds.

The causes of the disease may be divided into predisposing and exciting. The predisposing seem to be severe labour, anxiety of mind, depressing thoughts and debilitated constitution. The state of the atmosphere too, may act as a predisposing as well as an exciting cause.

The exciting cause appears to be a peculiar miasma and there can be no doubt that it is also infectious for when one case makes its appearance in an hospital it is speedily followed by numerous others, and there are facts on record to show that even the practitioner who has attended a patient affected with it, may communicate it to the next woman whom he delivers.

The appearances presented on dissection are thus stated by Dr Torrance " We found appearances similar to those observed by Keilme and Leake in the London Hospital.

On cutting into the abdomen, fetid gas sometimes issued from it. A fluid was always found in the cavity of the peritoneum. When the effusion was in small quantity, it resembled milk, and joined the intestines together like glue, but when in a large quantity, it had the appearance of whey. In consequence of this, the adhesions were not so strong. We found small whitish portions of this matter in the folds of the intestines, which when stirred, gave the appearance of milk to the effused fluid. The peritoneal

coat of the intestines had lost its usual pellucid appearance, had become much hardened, and the ramifications of the red vessels were conspicuous. These appearances of inflammation however, were not such as they should have been from such an effusion of fluid into the abdomen. The peritoneal coat of the stomach seemed always sound. The muscular and cellular coats of the intestines were sometimes affected by an effusion between them. The villous coat was almost always natural. About four or five pounds of a fluid resembling coffee was found in one or other of those affected.

The omentum in some cases firmly adhered to the intestines, and its substance was so much affected, that it was torn in many places before it could be separated from them; but it never seemed mortified; nor was it dissolved into a purulent matter as Leake and Hulme say they have seen it. The internal surface of the uterus was sound and never affected by inflammation. Suppuration of the ovaria was sometimes manifest. In two

in three cases it seemed that the pleura had been involved in the inflammation viz by effusion and other signs sufficiently marked."

From the appearances just mentioned, it has been argued that inflammation must have been the cause of all the symptoms which marked the disease during life. This however is taking a narrow view of the case, the acting upon which would be most dangerous to the patient. Because different organs are affected during the progress of a fever, we are not hence entitled to infer that the affection of these organs is the cause of the fever. As well might we argue that ulceration of the small intestines is the cause of typhus fever because it is found in dejection. Dissection shows us what takes place when the disease runs its course unchecked, but it does not lead us to the primary cause or to the general treatment. It shows us the complications which occur, but a plan of treatment directed to obviate these local affections will not remove the general disease, and hence in this as in some other affections

it may be said that morbid anatomy has made us acquainted indeed with some facts but has not led us to the true practice.

The treatment of puerperal fever like that of other diseases naturally resolves itself into the prophylactic and the curative.

The former consists in soothing as much as possible the mind of the patient before delivery, regulating the general health and freely ventilating the apartment. When the disease appears as an epidemic in an Hospital this must be shut up, fumigated, purified and not opened again till all cases of the affection have ceased. The practitioner who has been attending a case of puerperal fever will do well not to deliver another patient before he has changed his clothes and thoroughly purified himself, as it is quite possible, and there seems to be strong proof, that the disease may be communicated from one woman to another by the medical attendant.

The indications of cure are to remove the morbid irritability and to support the strength of the patient. This will be best

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effected by exhibiting at an early period ^{some mild laxative} and repeating it till the patient be properly purged.

The abdomen must be steadily and perseveringly fomented and the sooner after the attack that this is done the better. The strength of the patient must be supported by wine cordials beef tea &c. when the stomach will bear them. General blood letting is always prejudicial in true puerperal fever, and hastens the fatal termination. If in consequence of any complication it should be deemed advisable to apply leeches over the abdomen the patient must be strictly watched and her strength duly supported.

Emetics, oil of turpentine, mercury in all forms, valerian and other antispasmodics as well as large and repeated bleedings have been boasted of as infallible remedies. Experience however has shown the little claim which these have to our notice further than to warn us against the danger of some and the inutility of others. Emollient or purgative enemata may be thrown up and laxatives and

fomentations continued throughout the whole disease as circumstances may require.

Dovers powder with or without an additional quantity of ipecacuanha will be found useful in allaying irritation and promoting diaphoresis. The carbonate of ammonia with lemon juice and a little sugar impregnated with any essential oil tend when given in a state of effervescence to remove the sickness of the stomach. The patients mind must be encouraged by every means and she should be supplied from time to time with proper quantities of fluid. The apartment must be well ventilated and kept at a proper temperature.

The warm bath has been recommended, but the placing of the patient in it is apt to occasion considerable depression. Fomentations and spunging with hot water will answer the same purpose without diminishing the patients strength.

The treatment may be expressed in a single sentence:—purge, foment, and support the strength of the patient.

Dr Hamilton in his early practice

never saw a private case go wrong which was thus treated within the first six hours. In the epidemic of 1815 however these means failed to arrest the fever in the Hospital. Still no other plan of treatment was more successful or even as successful, for while by it some were saved all perished after free bleeding and mercury.