1876-77 Core.

On Puerperal Fever.

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One of the most fearful and most fatal maladies to which the lying in woman is subject is the disease known as Puerperal Fever. In its most malignant form medical skill is completely baffled, and the practitioner who is so unfortunate as to have this disease occurring in his practice finds one after another of his midwifery cases ending fatelly, and all his skill unavailing to divert the fearful mortality. It is only by giving up practice for a term of weeks that he can hope to cease being the means of continuing to spread the infection.

It is not at present known what the special poison is which gives rise to Puerperal Fever. We find it breaking out in epidemics of Scarlet fever when the symptoms of Puerperal Fever occur in connection with the destructive rash and sore throat of Scarlet fever.

The poisons of erysipelas and Puerperal fever have been said by some to be identical, while others affirm that it may arise from exposure to cold or from mental emotion disturbing the functions which ought to go on at that particular time.

The cases which have come under my own immediate observation could not be traced to the action of any epidemic and could only be accounted for by imprudence on the part of the patient or her friends and in one instance to the use of the forceps in effecting the delivery of the child.

What do we include under the term Puerperal Fever?

It has been used by some as including all kinds of fever occurring during the period of Convalescence after Confinement, as peritonitis or metritis and even the fever caused by the lacteal secretion has been

included under the term.
From the discussion on this subject last year (1875) in the obstetrical Society, the general opinion seemed to be to restrict the name to cases of blood-poisoning. Cases beginning as peritonitis or metritis in any of blood poisoning would thus be included.
In the present state of our knowledge we know nothing for certain of the cause of puerperal fever, or of the special poison which gives rise to it. There is however in our opinion no room for doubt that it is due to a poison of some kind. The phenomena of this fever are so associated with inflammatory affections as peritonitis or metritis that it seems to me at present better to include all under the same term.
Peritonitis is the most frequent lesion found in connection with puerperal fever, and we find that in cases where there is an attack of

Simple peritonitis or metritis the patient may generally recover. But sometimes those diseases assume a more malignant form and the symptoms then presented are identical with those of blood-poisoning. Under the term Puerperal Fever I therefore include not only the more malignant form but also all cases of peritonitis or metritis

What are the Causes of Puerperal Fever? It has been observed to break out during the prevalence of epidemics. Thus during an epidemic of Scarlet fever in the town of Blyth near Newcastle during 1874 a friend of mine lost several of his midwifery cases from puerperal fever. Before the out-break of the Scarlet Fever he had had no cases of puerperal fever for some years and it was only after the appearance of the Scarlet Fever that he had any case of puerperal fever in his practice. He was under the necessity of giving up midwifery

practice for some time.
Typhus Fever and erysipelas are also
Causes of Puerperal Fever.
Dr. Leishman mentions in his "System
of Midwifery" that from some oversight
a patient Suffering from Typhus Fever
was admitted into the wards of the
lying in Hospital of Dublin. The error
having been discovered She was
removed in a few hours. In the
beds on the right hand and the
left of this woman were two lying-
in women. both of whom were
Seized with puerperal Fever and
both died.
"Erysipelas and puerperal fever have
been repeatedly observed to prevail
at the Same time in the Same town,
in the same hospital, or even in
the Same wards." (Sir J. Simpson).
"The late Mr Bagley mentions an
instance of a Midwifetoad making
incisions into Structures affected by
erysipelas and going direct from
this to a patient in labour.

This patient took puerperal fever and died. And within the Course of the next ten days Seven Cases occurred in the ~~practice~~ practice of the Same practitioner almost all of them proving fatal."

Dr. Simpson's belief was that the two diseases were not in all respects pathologically identical, though the morbid secretions in the one were capable of producing in those predisposed to it the other disease, — erysipelatous effusions producing puerperal fever, and puerperal fever secretions producing erysipelas."

Defective ventilation, overcrowding, bad drainage, or anything which interferes with good Hygienic Conditions seems to Cause and encourage the advance of this disease.

That puerperal fever is highly Contagious is now generally believed, and that it is propagated by the accoucheur, seems to be well established.

In the epidemic which occurred in

Sunderland some years ago (1813) of the 43 deaths from puerperal fever 40 happened in the practice of one medical man.

Dr. Roberton of Manchester relates that in the space of one Calendar month a certain Midwife attended twenty Cases belonging to a lying-in-hospitality of these sixteen had puerperal fever and all died. The other midwives in the same ~~district~~ charity working in the same district attended in the same time 300 Cases none of whom were affected with puerperal fever."

Still we find Dr. Matthews Duncan characterising as ridiculous the ideas of medical men giving up practice after having had a case of puerperal fever. He considers there is no danger so long as the medical attendant takes proper precautions, as in the washing of his hands, and in the use of disinfectants after visiting a patient suffering from Puerperal fever.

Certainly the weight of evidence is against him, and I consider it the safest plan for the accoucheur to relinquish his midwifery engage-ments for a certain time. In some circumstances this can not be done and it is then the duty of the practitioner to use all possible precautions against the spread of the disease by using disinfectants and by strict attention to cleanliness. Much will depend upon the hygienic surroundings, and on the state of the patients health before and after delivery.

Symptoms. Like all other febrile diseases puerperal fever is generally ushered in by a rigor more or less severe, followed by heat of the skin and increased speed of the pulse, which may rise as high as 140 beats in the minute. There is generally pain felt about lower part of abdomen, this pain being increased on pressure, and

being generally confined to one particular spot. The lochial discharge is generally diminished or it may cease entirely. During the progress of the disease the discharge if present becomes very fetid in its character. The secretion of the milk is arrested and the breasts become very soft and flabby. Diarrhoea may be present from the first especially in severe cases, but as the case approaches a fatal issue it is invariably present. Tongue is generally Covered with a thick brown fur and patient Complains greatly of thirst. As the case approaches a fatal termination, the Countenance assumes a ghastly anxious look the Skin becomes Cold and clammy and a low muttering delirium is generally added to the other symptoms. The following Cases illustrate these symptoms.

Case I. Mrs Holmes 25 years of age a stout healthy woman was delivered

of her third child on June 26th 1895
The labour was concluded safely and
speedily in the natural way and
there was every prospect of a good
recovery. All went well till the
morning of the 28 when patient
was seized with a severe rigor
accompanied by diarrhoea, and
great pain over abdomen.
When I saw her she was very feverish
pulse 120 full and strong, tongue
furred and the slightest pressure
over abdomen caused severe pain
the lochial discharge was scanty
and the breasts soft and flabby.
Ordered flannel cloths wrung out of
hot water and sprinkled over with
turpentine to be applied regularly
over abdomen, and for medicine
I gave two grains of calomel and
half a grain of powdered opium every
4 hours. She was to have milk diet.
Saw her again in the evening of the
same day. The lochial discharge
had ceased, the diarrhoea still

Continued but the abdominal pain was much relieved. I did not however like the anxious look of the face and the pulse was much quicker 130 to 140 per minute and was much softer and weaker. There was also a cold clammy sweat over her body. The former treatment was continued and in addition I ordered a teaspoonful of brandy every hour. On the following morning the 29th my principle visited the patient with me. She had passed a restless night and seemed much worse. There were evident signs of blood poisoning in the anxious appearance of the face, the sunken eyes and the low muttering delirium. Patient spoke with difficulty and when spoken to did not answer readily and sometimes did not seem even to hear what was said. The diarrhoea being very urgent my principal ordered two grains of acetate of lead with

half a grain of opium every 4 hours.
Patient died on the morning of the
30th four days after delivery.
The symptoms in this case were
bad from the first and arose from
patients own imprudence. She
had left her bed the day after her
confinement and had partaken
of a hearty meal with the other
members of the family. She had
evidently caught cold and the
diarrhoea which set in so soon
was perhaps due to the food she
had taken. There were no epidemics
in the district at the time, I had
no cases of peculiar interest on my
list, and the other midwifery
cases I had about the same
time ended with no unfavorable
symptoms.

Case II. Mrs Philips aged 22 years
a thin spare woman was safely
delivered of a healthy child on
May 10th 1874. My principal attended
this woman at her confinement

but I had the management of the case afterwards.
Patient did well till the 14th when she was very much excited from having had a quarrel with her husband. On the evening of that day she complained very much of pain over abdomen which was increased on pressure. Her tongue was furred, pulse 120 to 130 p the minute while her face showed great anxiety. The lochial discharge was scanty and of a fetid odour. Ordered two grains of calomel and half a grain of powdered opium every 4 hours, with turpentine cloths over abdomen, and a liberal supply of beef tea and stock soups. Also washed out the vagina with tepid water and carbolic acid in the proportion of one part of the acid to forty of water.
15th Patient has passed a very restless night. The abdominal pain is ~~much~~ still very severe, the

pulse is much weaker, the Countenance is very anxious looking and patient is startled by the slightest noise. Lochial discharge has stopped, the lacteal secretion is arrested the breasts are soft and flabby and there is slight diarrhoea. She has also been delirious during the night Former treatment to be Continued, Vaginal injections being used twice during the day. Saw her again in the evening. There has been low muttering delirium during the day at intervals And there is no abatement of the other Symptoms. Patient died on the 17th. I have no doubt that the Cause of the fever in this case was the excitement Consequent on the domestic disturbance I have mentioned. Before attending Mrs Philips my principal had Confined another woman on the same day in another part of the district. This last became so alarmed and excited from hearing

certain reports of deaths amongst lying-in-women that she also took puerperal fever and died the day before Mrs Philips. My principal gave up midwifery practice for some weeks, as he considered he had been the means of carrying some morbid poison to these two women. It was impossible that the one case could arise from the other as there was a distance of two miles between them and though the principal attended both patients during confinement the subsequent management of the cases was entrusted to myself and another Assistant, he attending the one woman, and I attending Mrs Philips. I considered that both cases were due to mental anxiety, as at the time there was no Puerperal source from which the poison could have been propagated. No other cases occurred in the district at the same time. I was always very careful in the use of disinfectants while

attending such cases.

Morbid Anatomy. When we come to consider the morbid Anatomy of this disease it is evident from the Symptoms that the lesions will present signs of an inflammatory character. Peritonitis is one of the most frequent lesions met with. The peritoneum is seen to be of increased vascularity, and there is an effusion of lymph between the opposing Surfaces. This lymph which in ordinary peritonitis forms adhesions as if trying to prevent the spread of the disease, in the more fatal and malignant form as it is seen in puerperal fever is non adhesive and the inflammation spreads quickly and the peritoneum in these fatal cases becomes softened so as actually to appear sanguinous." (Holme and Lake) According to Dr. Murphy (who separates absolutely peritonitis from puerperal fever) it is the arterial Capillaries which are injected in peritonitis, while

in puerperal fever the venous capillaries predominate, which accounts for the livid hue of the intestines. He also says that the lymph in peritonitis is adhesive, while in puerperal fever that which we call lymph is not adhesive and is much more abundant than adhesive lymph. He says that in puerperal fever, the greater the intensity of the seizure the less chance of meeting anything like lymph, and that in protracted cases of either peritonitis or puerperal fever the morbid appearances more closely resemble each other, but that in cases which are more quickly fatal, the distinctions between them is quite sufficient to separate the one from the other". "Admitting the accuracy of Dr. Murphy's opinion there seems thus no reason for modifying the opinion, that the fever may either, as is usual when it is propagated by epidemic influences, be primary, or it may appear subsequent to the peritoneal inflammation when it may

be termed secondary" (Dr. Leishman).
In puerperal metritis the womb is found on examination to be soft and flabby and of increased vascularity. The muscular tissue has been observed in a number of fatal cases to be softened entirely or partially, and the most frequent seat of this and other uterine lesions is the site beneath which the placenta was attached, and next to that the lower and flabby cervix".
In the more malignant and fatal cases the tissues of the womb have been observed after death to be gangrenous. When the veins of the uterus, or those more immediately connected with it, become the seat of inflammation the result of this is the formation of a blood clot, which becoming decomposed gives rise to pus. This being carried by the blood to distant parts of the body gives rise to the formation of abscesses in these parts, as in the joints and muscles of the limbs. The lungs, heart, liver,

Spleen and Kidneys have been also found extensively desorganised as the result of this blood poisoning. "The morbid appearances disclose to us nothing by which we are able to distinguish the various types of puerperal fever". "Generally speaking the extent of the local lesion corresponds to the severity of the attack, but in the most rapidly fatal cases nothing may be revealed beyond a peculiar condition of the blood (want of coagulability) and a little turbid Serum in the peritoneum and other Serous Cavities.

Treatment. As regards the treatment of this disease we must remember there are two classes of cases we have to deal with the sthenic and the asthenic. We must therefore adopt our treatment to the different types of the disease remembering that the sthenic may, and in fatal cases, does run into the asthenic. In the history of some epidemics we find the plan of treatment adopted was

the free and early use of the lancet, along with free purgation. This was the treatment adopted by Dr. Gordon in Aberdeen and his plan was followed by Mr Hey of Leeds. Dr Gordon took twenty to twenty-four ounces of blood at once, and if necessary ten more soon afterwards. After the bleeding he bought on diarrhoea which he continued through the whole course of the disease till it was entirely conquered. For many years after the treatment of epidemic and contagious puerperal disease was, simply, heroic blood-letting. Such a plan of treatment would no doubt be very successful in the inflammatory form of the disease, and when the patient was seen early, but to follow such a plan of treatment when the disease assumes the asthenic type would be decidedly injurious. A different plan of treatment was adopted by Dr. Copeland while physician to Queen Charlotte's Hospital. His method was boldly stimulant and consisted in the

administration of a bolus containing eight to sixteen grains of Camphor, tento twenty grains of Calomel and from one to three grains of opium every 4 or 5 hours. Soon after the second bolus was given, half an ounce of Spirits of turpentine with Castor oil was given on the surface of some aromatic water, and if this did not operate freely on the bowels the same medicines in double quantity were given as an enema. Heated applied flannels wrung out of hot water and sprinkled with turpentine to the abdomen. These were applied till the surface of the abdomen was freely reddened. The type of fever thus treated must have been widely different from that treated by Dr. Gordon and Mr Hey by free bloodletting and the practical conclusions to which we come is that, as we have said before, the plan of treatment adopted depends on the type of the disease. When the patient is of a robust

constitutional, and inflammatory Symptoms are urgent, much good will be derived from local or general bloodletting. If there is constipation with scanty lochial discharge free purgation at the outset will Considerably act beneficially. Generally give ten grains of Calomel with a small quantity of jalap. The following case in which the above treatment was adopted ended favorably.

Mrs Low age 20 years a strong healthy woman was delivered of her second child on the 1st of February 1895. Labour was tedious, but was Completed in the natural way. Placenta was slightly adherent but was removed without much difficulty.

February 2nd. Patient has passed a quiet night, after pains not troublesome, and the lochial discharge is plentiful. Baby has been put to the breast, and unless a little pain when she makes water, everything is favorable. I was called to see her on the evening of

the same day. She had had a sip
in the early part of the afternoon,
the discharge had since become very
scanty, she had been unable to make
water, and she was very feverish.
Catheter was used and I gave her
a powder containing ten grains of
calomel with ten of jalap.
3rd February. Bowels have been freely
moved discharge is much more
plentiful but she is still unable to
make water, and complains of pain
over abdomen. Patient is very anxious
Her pulse is very quick 110 in the minute.
Ordered her a powder containing two grains
of calomel and half a grain of powdered
opium every 6 hours. Hot fomentations
to be applied over abdomen, and her diet
is to consist of milk and strong soups.
On the evening of the same day I again saw
her. She had been able to make water
but the pain over abdomen was much
worse, and she was lying on her back
with her legs drawn up. Ordered
turpentine to be mixed with the fomentation

and the Calomel and opium powders to be taken every 4 hours.

4th February. Patient has passed a restless night. Pulse is 120 to 130 per minute, Pain over abdomen is worse, and she has been unable to make water during the night. I used the Catheter, and ordered twelve leeches to be applied over abdomen, and the bleeding to be encouraged by means of hot fomentations. Saw her again in the afternoon, pulse is much lower about 112 in the minute. Pain is much relieved, and the lochial discharge continues though scanty. Previous treatment Continued.

5th February. Patient has passed a better night. There is evident improvement in the symptoms, pulse 108, and abdominal pain is much relieved. She expresses herself as much better From this time she Continued to improve and in about a fortnight was able to leave her room.

She was evidently a case of puerperal peritonitis and according to some authorities

Should not be classed with puerperal fever cases, but I have classed all no cases of puerperal fever whether they end in blood poisoning or not. I consider that the latter is this case most efficacious, and to that treatment and the careful nursing I consider the woman owes her life. I can assign no cause for the supervention of the peritonitis as the woman was carefully attended to from the first. I considered that the difficulty of micturition was most likely due to the tedious labour.

The drug which I consider most beneficial in the treatment of this disease is Opium, and I generally combine it with Calomel. Vaginal injections of tepid water + with carbolic acid or other disinfectant should be largely used especially when the discharge is fetid. For external applications I consider the best are hot turpentine cloths. One great advantage they possess is their lightness. And this is a great benefit when we consider the

extreme pain and tenderness which is so frequently present over abdomen in this disease. There is no remedy which so far as is known acts as a specific in this disease.

The diet should consist of milk, strong soups and beef tea and if a stimulant is needed I place more dependence on brandy than on any other.

Whatever treatment is adopted the physician must always bear in mind the risk of contagion and should be pointed in the use of some disinfectant, and attention to cleanliness.

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