A Thesis on

Puerperal Fever

by

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A contribution to the study of 
Scurfulal Fever
-its nature, causation, symptoms and treatment.

In my treatise upon this subject, I do not propose to advance any new or startling theory, either as to its origin or treatment, but simply to formulate in a brief and concise manner my conception of this disease, grounding my remarks upon a strict scrutiny of cases which have come before me in actual Midwifery Practice.

During my 4 years of Practice I have encountered 13 well-defined cases of this disease, all of which cases I brought to a successful issue, and in this paper I shall endeavour to portray the picture of Scurfulal Fever, as figured upon my mind's retina, keeping aloof from dogmatizing upon the subject in any shape or form.

Scurfulal Fever may be defined as - A name given
to a group of symptoms which result from a peculiar and highly contagious form of Blood Poisoning limited to Parturient Women — the word Parturient embracing not only women who have been delivered of a child, but also those who suffer a miscarriage or abortion and including the state of those women, both before as well as after ordinary labour or abortion. It is not a specific disease, but rather the generic title of a family which has a number of members or offshoots. Some members of any given family may be robust, and others not so, so Purpurae Fen includes varieties of disease which are of the greatest virulence and others which are relatively benign and mild in their course. This Purpural Blood Poisoning is a highly febrile form of disease which is accompanied by more or less symptoms of a well-defined local and general character. To produce a case of
Puerperal Blood Poisoning, there must be present in the Puerperal State 3 factors, the absence of any one of which, in my opinion is a complete bar to the occurrence of the Disease.

The 3 factors are

1. The presence in or free ingress to the body of Poisonous Gens.
2. A peculiar morbid state of the blood, which enables these germs to live, thrive & multiply, and thus exercise their deleterious influence upon the whole body economy.
3. Some deficiency in the excretory apparatus of the body, thus not only tending to further increase this morbid state of the blood, but also on account of its persistent though perhaps chronic and latent character, producing in its Possessor a natural Pre-disposition to this Disease.

I wish to emphasize the fact of this Constitutional Pre-disposition, as I firmly believe that where this does not exist...
our patient cannot possibly get
Purpurae Fusa, even if Poisonous
gums were introduced by the
bucketful.

First of all then as to the Poisonous
gums which are found in the blood
and tissues in Purpurae Fusa.

They occur in the form of micrococci
either in clusters, or in single
round bodies. Those that have
been found are the Streptococcus
Pogens, Streptococcus Pagens
aurantius, albus, and citrins. They
are the same micrococci as occur
in ordinary Surgical Syphilis and
Pyrexia. They are found in
the body in the healthy state also.

Stiefele found them in the
vaginal canal of pregnant women
who had not previously been ex-
amined. They are found in simple
boils and abscesses, and are found
in the skin, in the mouth and the
mouth and the
parts of perfectly healthy people.

We are surrounded by these micro-
cocci on every hand. It is therefore
easy to see how they can gain
access to the genital canal either
by themselves, or by being conveyed.
by the hands or instruments of the medical attendant or nurse. After labour, the internal genital parts of a woman resemble a large open wound - like a stump after amputation. Not only can these microbes gain access to the blood and tissues directly through the placental site, but also through many abrasions of the remaining soft parts of the cervix, genital canal, or perineum which often result from labour especially in a Primipara.

Once inside the body, they grow multiply, and by exciting their poisonous influence, provided the other factors of the disease are present, they produce what we call the state of Puerperal Blood Poisoning. How they do so, we shall describe presently.

Another class of poisonous forms, is the class known as Bacteria. These are the germs of ordinary putrefaction of organic fluids. They do not live and multiply in the tissues. By producing decomposition
they are the means of their being absorbed into the blood of certain poisonous material. This poisonous material is the cause often of a certain stage of Blood Poisoning, but since the Bacteria cannot multiply in the blood, the disturbance to which they give rise is in direct ratio to the amount of poisonous material absorbed and is in therefore direct contrast to the action of micrococci.

If we remove the decomposition products—no more poisonous material can be absorbed, and the disturbance abruptly ceases. But once micrococci have entered, they have the means of indefinitely prolonging their mischievous influence, provided the state of blood is favourable to their growth. We have therefore not only to prevent any fresh entrance of micrococci, but also to act upon the blood as to destroy the influence of those already there.

We have said the poisonous gums are micrococci, Bacteria
We have seen that microbes may be in the body even in the healthy state. So also with bacteria which may be found in ordinary normal healthy local discharge. How is it therefore that these germs, which may be present in a normal healthy body, only occasionally exert a poisonous influence upon that body?

Under what conditions and during what circumstances do they pursue a vicious course in the human woman?

The answer to the question is that when the blood and tissues are in such a peculiar and morbid state, as to afford these germs a suitable milieu for their habitat and growth, it is then, and only then, that they are able to exert any baneful influence, and in proportion to the extent of the morbid blood, is their power of producing disease increased or diminished. It is therefore quite as important to thoroughly understand the cause and treatment of this morbid state of the blood as
it is to circumvent these gnomes entering it. Some observers have advanced as a reason, why these gnomes which are or seem to be innocuous in one person, are merely the cause of some trifling ailment such as a furuncle, while in a corporeal woman they set up the grave disease of Septicemia - by saying - that there are either different species and varieties of microbes which although not morphologically distinguishable yet differ in virulence that is to say in their power of establishing themselves in the tissues or else that they can be cultivated into virulence in the body. As evidence of this they point to the modification of variola into vaccinia, and the variation in the virulence of contagious diseases in different epidemics. My theory is that the different effects of these microbes correspond exactly with the different pabulum which they meet with. In one person ordinarily healthy, they find no sufficient pabulum to feed upon and are consequently inert. In
another individual, they find some deficiency, some fault in the blood which just suits their purpose. They thrive upon that state of the blood, and produce different diseases in different individuals, according as the blood of those different individuals possesses different deficiencies. The true nature of most diseases I think depends not so much upon the distinct characters of the microbes we find in that disease, as upon the state of blood or tissue which suffices to feed those particular germs. I go further, and think that perhaps certain germs have distinct differential tastes and are attracted to certain organs by the peculiar state of those organs or blood, which perhaps they may as it were smell from afar, certain states of blood or tissues attracting certain organisms and the presence of these organisms being concomitants of the disease and not necessarily the causes of it. This by the way, but it
appears manifest to me that in
purpural women, these micrococci
produce the peculiar or well-
defined symptoms of purpural
blood-poisoning, not on account
of any inherent virtue or vice
they possess, but simply because
in some purpural women, they
find just that state of blood
which enables them to thrive
and multiply, and become trans-
formed from inert masses into
actual potent agents of mischief.

As a child, nature may be
shaped by circumstances and
surroundings, so may micrococci
under different circumstances
assume different characteristics.

As to the morbid state of the blood
- the 2nd factor of this disease
after labour, the natural
subsequent involution of the uterus, in gaining its normal
size, necessarily thrusts into
the body and blood generally
an enormous quantity of effluent
material. This must be so under
the most favourable circumstances.
and after the most easy labour. Especially is it so, when this in-
volution has been preceded by
the great exertions of a first or
protracted labour. In cases
of animals which have died
suddenly after long and violent
exertion, the blood has been
found to be in a state, very
much more prone to decomposition
than is natural.
Here then we have a similar case.

What exertion could make a
heavier call upon the tissues of
the body than that which acc-
companies labour, especially in a
Primipara? What more exhaustive
drain upon the vital forces could
possibly be, than that which
ensues from the natural, but
highly complex and prolonged
act of Parturition? As a
consequence after labour we
find the blood in an extremely
debilitated condition, drained
of its life giving qualities to the
lowest state of impoverishment.
Then into this already poor
state of the blood comes the push
of the effete material caused by the subsequent uterine involution. The veins of our patient become for a time as if it were a regular sewer, and the tissues thirsty for health giving nutrient, become choked with impure blood. It is as giving salt to a thirsty man, or asking for bread becoming the recipient of a stone.

Now provided the excretory organs - skin, lungs, kidneys, liver etc. are in a sound state of health, nature re-asserts herself, and this effete material becomes gradually carried away and the blood and tissues recover their firm healthy tone and the labour ends in an ordinary normal recovery.

But if poisonous germs enter the blood, when it is in that debilitated state, and loaded with effete material, and if again there be some defect in the excretory apparatus so that the impure matter is not rapidly got rid of - we have then poisonous germs
revelling in a foul current - we have the veins of our patient resembling not only a sewer but a closed sewer owing to some serious defect in the outlet drainage pipe. It is now that the gums play their vicissus part. The very small amount of oxygen contained in this impoverished blood becomes absorbed by the microbes. They wallow in a ming circulation and by the effect upon the tissues and body generally, the symptoms of what we call Perforal Blood Poisoning must of necessity arise.

The microbes exert their malignant influence upon the body either by producing in this growth some poisonous material which has a baneful effect, or by consuming oxygen required by the tissues, or by forming plugs which block small vessels most probably they act in all three ways.

The most important fact is that we do poison the body.
that they only do so, in virtue of, and solely on account of the peculiar circumstances in which they find themselves placed.

Bacteria on the other hand do not enter the blood or tissues but give rise to a form of Puerperal Blood-poisoning, by being the direct agents of certain products of decomposition. These products - this poisonous material, becoming absorbed into the circulation, provided the other factors of the disease are present, give rise to a certain train of symptoms which we shall describe under the heading of Puerperal Intoxication or Supraemia. If a portion of Placenta be left in situ after labour, this will gradually, due to the presence of bacteria, become decomposed. Poisonous products are continually being formed, absorbed from this decomposed mass, and the intense fibril ac-

ion of Puerperal Supraemia may be set up. This will continue so long as, and no longer than
The supply of poisonous material lasts. Remove the decomposed mass and at the same time, we remove the cause - the fever subsiding from the patient with an intense abruptness. This is due to the fact that although the blood is foul and poisoned - the poisonous products are unable to multiply themselves - they are products, not agents, consequently when the supply ceases, the effect of the fever ceases, and the blood is gradually cleansed of the poison it contains.

The only method to destruction not being suffered with fresh force, not a necessary consequence the machinery stops. Here then our treatment is simply limited to preventing the poisonous material entering the blood stream, by removing from the tissues the decomposed mass, and cutting off the supply.

In the case of the microbes which enter the blood stream and produce their poisonous material there, and by multiplying can carry on their mischievous influence...
indefinitely — thus giving rise to what we shall describe under the heading of Parenchyma Syphilis. Our treatment will consist not only in cutting off the supply from without, but also of negating the action of those already within. As contrasting with the preceding group — they are agents, not products, or rather we should say they are productive agents.

The foregoing circumstances and conditions, are attendant upon any case of Parenchyma Syphilis. Some forms of this disease are due to Zacteria — some to microscopi, but in neither case can Zacteria or microscopi produce the disease themselves. There must always be present — a certain state of morbid blood and a certain defect in the secretory processes. What tends to make the blood fit for, or capable of, making the disease, besides the natural processes attendant upon Uterine Involution.
It is the answer to this question that renders the astology of Purpurea Tumour such a profound and complex mystery. To find some cause of Body Contaminations which acts directly either in the stuff of a peculiar poisonous gum, which acts wholly by itself, or a gum plus a trymatic influence of the body generally and together. It is in search of this, that great many agents have been advanced as the causes of this disease — Sewer Gas, Institution of our Condensing, the poison of Scarlet Fever and Typhoides, and others. The point I wish to emphasize is that there is no cause of Purpurea Tumour, but a conjunction of causes — the 3 factors I have mentioned before.

What particular poisonous gum enters the blood does not matter — what particular deficiency may be in the secretory apparatus does not matter. The supreme fact is that there is some deficiency in
some one or more of the excre- 
tory organs, which brings about 
that peculiar morbid state 
of the blood after Parturition 
as to cause with the help of 
micro-organisms this distinctive 
disease.

Of these diseases of the excretory 
organs I class first and worst 
of all — Phthisis.

Out of my 13 cases of Congenital 
Tumors — no less than 6 had a 
distinct phthisical history, and 
of these 6 cases, 3 were suffering 
from Phthisis themselves, one being 
in the incipient stage, and the 
other 2 somewhat advanced. 

Of the remaining 7 cases — 2 
had been previously treated by 
myself for Jaundice, thus showing 
unhealthy livers. One of these 2 
subsequently had well marked 
Cirrhosis of the Liver, and Dropsy 
from which she died. In 
3 other cases there was a distinct 
history of gravel and kidney mis-
chief. One other case was only 
just recovering from Scarletinae 
Nephritis when she became pregnant.
and the remaining woman, was a stranger to me. I could find out no distinct diseased family history, but she was a pale, weak, emaciated creature. The child born showed well marked signs of Congenital Syphilis. It was her first baby and consequently there was no history of miscarriages but I have no doubt that she has herself Syphilitic mischief in her own body, which though lying dormant at present will manifest itself some day in liver, kidneys or other of her excretory organs.

This rather remarkable series of Constitutional traits in Puerperal Fever patients, seems to my mind sufficient warrant for me to propound this theory.

I am quite aware that there are two grave drawbacks to this theory. A critic might say (1) In that case since your patient has this disease of the excretory organs and since Treponema can always gain entrance to her body - then after every confinement
she must have Puerperal Fever
(2) or it might say

Then how do you account for
the intense contagion there exists
between a Puerperal Fever patient
and any other lying-in woman
when both are visited by the
same person? In one theory
of distinct poisonous gums it is
easy to see how a doctor may
carry poisonous gums from one
to the other, in his hands, clothes
but we do not see how he can
carry about with him, and
furnish his patients with diseases
of the excretory organs to order.

As regards these 2 objections
I should say—

(1) May not Puerperal Fever, like
a zymotic disease like measles,
confer an immunity on at any
rate a quasi-immunity upon
the patient, from another attack
of the same disease? I have
not been long enough in Practice
yet to satisfy myself as to
whether it does confer absolute
immunity or not.
(2) To the second argument I should say - How do you know that the woman who caught contagion from any given case, was a healthy woman, or even the third, fourth or fifth woman in succession, that the same doctor might visit? How many women go through the whole of their child-bearing period with as it were some latent disease that they are not conscious of, which only breaks out into notice at a later period of life. Is it too much to say that the percentage of these latent and dormant diseases, which often seem to as it were incubate for years in the human body is at least as high in the female sex as the percentage of Puerperal Fever.

Is the percentage of Puerperal Syphilitic disease so high as to discredit that theory?

How often do we in the Post-mortem room discover diseases that the patients themselves during life, never complained of, and were never conscious of? And
I would ask the man who uses this second argument—how is it then—is it as far as you say Purpurae Fever is so contagious, that simple contact with one case of the disease gives the disease to another lying in a woman, the medium being the micro-organisms on the doctor's hands—the nurse's hands—how is it then that it does not always do so? I had a case of Parametritis which I did not consider syphilitic till after what I am about to say happened. During my attendance upon this case, I had two confinements the same night in another part of the town—two cases. The next day I had another confinement, and the very same evening, yet another. The first two cases developed virulent Purpurae Septicaemia; the latter two escaped, nevertheless. Few did a mild Parametritis cause Virulent Septicaemia in two cases, and 24 hours afterwards it not only failed to attack 2 other cases, but even in conjunction with the case.
It first of all caused it was not enabled to make the camp contagion to the latter two cases. The same precautions were taken throughout, as it was not until the first 2 cases showed signs of Syphilis, that I came to the conclusion that my Parastitis case was syphilitic, and by that time I had already attended two other cases which never had a bad symptom. And in one of the two latter cases, I had to introduce my hand into the uterus and perform pudicervicotomy!

If my theory of syphilitic vaginal disease be discredited - what a remarkable coincidence it is that the first 2 cases just mentioned, who caught the disease were both distinctly syphilitic, and the latter two, which escaped were in all appearance in the soundest health.

As regards the connection between Scarletina & Perforating Tumor, erysipelas & Perforating Tumor, and
Sewn gas and Purpureal Flower, I must say that my experience in Practice altogether discredits it. The connection between cases of Scarlet Fever or Tonsillets and Purpureal Flower, is to my mind not a whit stronger than any other diseases which tend to swelling, pustules or abscess formation. That microsever from a swelling scarlatinal throat, or from a case of the common Tonsillets, may be carried by the secretions and thus obtain ingress to the genital canal, I do not deny, but even then they simply supply one factor of the disease, which in the absence of the other factors can do nothing towards the occurrence of this disease. Purpureal women are prone to Scarlet Fever. Scarlet Fever poison then may induce the disease of Scarlet Fever, and Tonsillets that of Tonsillets, as indeed they often do, but that either of them, if themselves can produce Purpureal Fever, is a theory for which I see no shred of shadow or foundation.

I have been for four years in
busy Practice. My midwifery cases average 150-200 per annum, all attended by myself personally, in addition to the other duties of a large Practice. Scarcely a day passes but I attend some cases of Scarlet Fever and Influenza. These diseases, like the ones we have always with us. Often, scores and scores of such cases I attend weekly, and竣工s some half-dozen of midwifery cases besides. Often I am called in to a confinement when on my daily visit I find my patient, or often I have just been making incisions in some vesicles or blisters. Far from home, away from all chances of thorough or sometimes even partial disinfection, I have thus to enter upon midwifery duties while reeking with germs. That has happened to me scores, I might almost say hundreds, times, yet I have never seen the slightest possible connection between these diseases. I am convinced that if
there was any, or even remote connection between these diseases, busy practitioners like myself, would have our Puerperal Fever statistics multiplied a thousand times, and instead of finding either Puerperal mischief, a rare occurrence, it would become a very remarkable phenomenon should any woman under any circumstances have a normal lying-in as regards Bad Drainage, Sewerage for etc. I also fail to find any connecting link between this and Puerperal Fever. I am practicing in a very poor and crowded part of London. Some — a few streets in certain quarters, as regards their drainage and ventilation are little better than ten years ago. I am constantly in these streets visiting cases of Diarrhea, Typhoid Fever etc. Which diseases I treat Bad Drainage originates, a conclusion but although I have confided scores of women in these streets I have seen but a case of Puerperal Fever there. In houses peeling with guilt and every abomination, I
have conquered women in these countries but they have exhibited the slightest signs of any state of Perforated Pyemia. Bad drainage can contribute to the occurrence of the disease, by its rendering the constitutional system of the body diseased and thus to a certain extent by breeding other internal diseases, in a sense predigest to this disease I admit, but all these and other causes of health have no distinct bearing upon the direct occurrence of Perforated disease. They can only act by causing or contributing to some disease of the excretory organs, as one factor of the disease, and by contributing poisonous gases as the other factor. Of course cases will arise in which bad drainage has caused both these factors. Then it will cause Perforation but not simply on account of its poisonous gases, but because in addition to that, it has first all caused a tendency to cause some disease of the excretory organs. I
conclude by stating again my earnest conviction as borne out by practice that in the occurrence of every case of Paroxysm Fever we must have the 3 factors I have mentioned.

I admit, that even if the 3 factors are present, Paroxysm Fever may not result - the existing disease may not be sufficiently pronounced, or powerful for mischief, or the Janet may arise with some inactivity of the poisonous germs or to their supply being at one stuffed by canyze antisyphloc frencatins. Paroxysm Fever may not result, although the great probability is that it will if the 3 factors be present.

but Paroxysm Fever can not by any possibility occur in any case imaginable if any one of those 3 factors be absent.
Symptoms of Placental Fever

In order to discuss the symptoms of Placental Fever, I shall divide this disease into 3 more or less arbitrary divisions. Any given case of Placental Fever may present the symptoms of all these divisions or it may only present prominently the signs merely of one of them.

10. Placental Tachycardia - we have shown that by this we mean a special state due to the absorption of certain injurious products. As a rule these injurious products are the result of the decomposition of a portion of retained placenta, but it may be due to the swallowing of some secretion of the cervix, seminal canal or penisum. One case that I had, in which I was absolutely certain that the placenta had come away entirely, but where afterwards I removed from the uterus a rather large decomposed mass which upon examination was undoubtedly of placental consistency. I put down as due to me 2 cases of Placenta Incentinata in which there may be detached masses of placental tissue, apart
from the normal Placenta, due to development of isolated patches of chorionic villi.

The first thing noticeable after delivery in a case of Pyrexial Supraemia, is, that in a few days—generally in a day or two—the Lochia become offensive. Then very suddenly, generally on the 3rd day, but at all events within the first week—a rigor sets in—the temperature rises to 102.103. or 104°—the pulse registers 120 or more beats per minute, and there is very often, complete suppression of both the lochia and milk. The patient is to all appearance in an alarming and highly critical condition. Oftentimes the rigors are repeated, owing to fresh absorption of poisonous material, and the rigors are succeeded by hot flushes and profuse perspirations.

Upon making a per vaginam examination, one generally finds a small piece of decomposed placenta just inside the os.
or blocking up the mouth of the os, but quite loose & detached
If we take this piece away and spring out the uterus with a solution of Corrosive Sublimate 1 to 2000, and give our patient 10 grains of Euminin in a single dose - in a few hours time we shall return to find our patients temperature and pulse almost normal, the next day, quite normal, the lochia and milk return. The patient will probably make an uninterrupted progress towards recovery, as if that alarming state just described had been a simple short afternoon dream.
(2) Puerperal (Syphilicemia (proper)
This being a state of affairs in which living organisms enter the tissues and blood stream of our patient, and grow, multiply and exert a poisonous influence there - the while, the blood itself from various causes explained before is in a peculiar sickly state - the result being that such
such an extreme pyrexial state is produced that unless remedied our patient dies in a few days from the Pyrexia only, and in a state of what one may almost call Septic Asphyxiation.

The symptoms of this condition commence generally upon the third, fourth or fifth day after delivery. First of all a rigor takes place. In two cases that I had - upon respectively the third and fourth day after delivery, when I had visited my patient, and found everything perfectly normal, as to temperature, pulse, amenorrhea, lochia, and freedom from pain, I have been called back in both cases before I had turned the corner of the street and found my patient in an extreme state of rigor, with teeth chattering, and the very bad rocking from the violence of the rigor. The temperature in the two cases was respectively 104 and 105, the pulse 140 and 160 per minute, and all this alarming state within less
than five minutes of my leaving them previously in an absolutely normal and comfortable condition.

After the rigor has passed, the temperature still keeps high or even higher, and the patient breaks out in a state of profuse perspiration. The most peculiar thing about this condition is the state of the pulse. It becomes increased in frequency, not in absolute ratio to the temperature but at a much higher rate of increase. The temperature may be only 102, and the pulse meantime 140. I rather disregard the temperature in these cases, and rely upon the pulse.

By drastic and perhaps ingoncious methods, the temperature may be possibly reduced but unless the pulse be controlled it is evident to me that the treatment is on the wrong track and that the serious state of affairs is only being disguised — not cured. In a case I mine where the temperature was continuously for 3 days and nights...
at the point of 104, but where by means to be described I had kept the pulse at no more than 100, I was able to confidently, and successfully predict a happy issue.

In this condition also the patient will probably complain of headache and pains in the back and limbs. Violent diarrea may set in—the motions being peculiarly offensive. Vomiting also may take place. In one of my cases a brilliant scarlet rash was observed, from head to feet, which rash only lasted a few hours, and which after the patient’s recovery was not succeeded by the slightest sign of desquamration.

The lochia is suppressed from the outset, but in all my cases the secretion of milk was not interfered with. In one case the breasts indeed were so full the in account of the baby being taken away from the breast by my orders at the onset of the illness, that I had to
remove a portion of the milk
by the breast pump at a time
when the woman's temperature
was 104, the pulse 130, and
the woman herself in a state
of delirium—this taking
place upon the eight eighth
day after delivery, and the
fourth day after the onset of
the fever.
In these cases also there is
very often some tenderness of
the abdomen, and sometimes
also of the spleen.
In fatal cases— the tem-
perature mounts higher and
higher delirium may or may not ensue
-the tongue becomes dry, the
diarrhea virulent, and the
patient sinks, as if life were
choked with the intensity of
the Pyrexia

3) General Sphylic Peritonitis oc-
curing in the Puerperal state

It is a much debated point
whether Peritonitis occurring in
a Puerperal woman, has always
a Sphylic origin. A case here or
there may not be of this origin
but I think the vast majority are, or at any rate they are cases of general peritonitis which are either caused by — followed by — or complicated with septic disturbance. I do not think in any case of peritonitis occurring in a puerperal woman, it is possible wholly to eliminate the idea of there being a septic element, and as these divisions of puerperal fever are perfectly arbitrary, and do not pretend to absolute accuracy, I prefer to use the above heading, as the one that seems most accurate and reasonable to me.

The first symptoms of this condition generally commence some days later than either sepsis or septicemia proper. The ninth day I have found is generally the day of onset. I am aware that all standard authorities say that it commences earlier than this, and generally within the first few days after delivery, but I have not found it so. Of the four examples I
have had of this disease or rather of this division of Puerperal Syphilitic Disease - these commenced on the ninth day, and the fourth on the eleventh day. Observes tell us that these what they call late cases must have exhibited some initial symptoms upon the first few days, which were overlooked by the Practitioner, but considering that during the first few days after delivery, any puerperal woman has some slight febrile symptoms, totally unconnected with any disease whatever, I do not see that in the few cases which do develop disease afterwards, we should include as part of the symptoms of that disease the ephemeral febrile disturbance which is the natural concomitant of every lying-in woman in the most healthy cases.

Commencing therefore on the ninth day or later, we notice in these cases that first of all one patient has a severe rigor. This will be accompanied, preceded a closely followed by an attack of
vomiting. The temperature rises up to 105° or more. At the same time, the patient complains of acute pain commencing near the umbilicus and extending over the whole abdomen. She shall find her lying in her bed, with the knees drawn up. The whole abdomen becomes distended, and the distension of the times is so enormous that coils of intestine may be seen standing prominently out. The pulse is rapid, but soon becomes sphygmal. Vomiting is frequent. The bowels are generally constipated, but violent diarrhoea may set in, with motions of a very offensive character. This is a bad sign, and when accompanied with coffee-ground vomiting will spell a hopeless end.

The breath of the patient has a disagreeable smell, and she has a yellowish cachetic appearance. The hands and feet become cold, the pulse so feeble as hardly to be felt, and if it the disease is to terminate fatally, the patient begins to pick at the bed clothes, becomes comatose, and dies.
If the disease takes an irregular course, and is spread over a long interval of time, and if the inflammatory process be of an adhesive character, the intestines may become matted together, as actual tangible masses may be formed in the abdomen, suppuration may then take place. An abscess is formed, which may point on the surface of the abdomen, or find its way and burst into the vagina or intestines.

(4) Septic Peritonitis & Parametritis

This last form of Puerperal septic disease embrace those cases in which the chief, predominant seat of disease is a septic inflammatory process of the pelvic pelvic tissue (parametritis) or of the pelvic peritonum (peritonitis), or of both combined, but without extending to the general abdominal peritonum. Parametritis is the more common and generally when Peritonitis exists in the Puerperal state it is in conjunction with Parametritis. I shall therefore describe them together, noting their diagnostic differences as I proceed.
as I proceed.

This disease may commence at any time after delivery from a few days to a few weeks.

It generally commences with a rigor and sudden rise of temperature. The temperature may be 102°, 103° or 104°. The pulse is not so frequent as in other forms of this disease, and has never in my cases quite reached 120.

With the rise in temperature there may be vomiting, and acute pain in the abdomen. A distinguishing feature of this pain is that it is limited to one side of the abdomen. There is extreme tenderness upon touching the abdomen. There is often special suggestion of urine due to the excitation surrounding the bladder.

The bowels I have generally found to be in a normal condition, neither constive nor the reverse. The pain in the abdomen often ceases after a day or two, but the tenderness remains. There is never much distension of the abdomen. Another peculiarity
symptom of this complaint is a distinct and acute lumbosacral pain due to the pressure of the edema upon the lumbosacral plexus. For the same reason there is often pain down the thigh, and we may find the patient with one thigh drawn up. The temperature remits and intermits. It tends to some reach its height but there are often morning remissions. Often there are purple purpura. The tongue is coated, but usually moist. I have noticed that the fur on the tongue takes the form of a lozenge or triangle, and never extends quite to the tip. The patient will also probably complain of headache and sleeplessness.

It generally takes some days for the edema to be so great, as to allow us to really feel any amount of inflammatory thickening in vagina. But at the end of a few days, upon making a per vaginam examination, the
can usually feel a distinct inflammatory mass, on one side of the uterus. It is generally of a wedge shape, and extending in the position of the broad ligament. This generally displaces the uterus and pushes it to the opposite side. The exudation may extend to the iliac fossa and form a distinct swelling in the neighborhood of Poupart's ligament, and this if present is a thing which by no manner of means is ever present in a case not of malarial origin.

The swelling tends to gradually become harder and then to be absorbed. Or it may suppurate. Pus becomes then established, showing the formation of an abscess. The abscess may lie in the colon, rectum, vagina, or bladder if due to perihepatitis but if due to parametritis it will lie a little way above Poupart's ligament.

All this is a matter of weeks and the disease is therefore protracted. This is what we may
consider an unsatisfactory turn of affairs, as in a great majority of cases, absorption takes place and not suppuration.

Suppuration is more frequent in Parametritis than Perimetritis.

Another distinction between these two forms is, that in Perimetritis, after making a per vaginam examination — in Perimetritis one finds a peculiar board-like induration of the whole roof of the pelvis with the uterus as it were tightly grasped in the centre or pushed slightly forward into the pouch of Douglas.

Another point in the differential diagnosis is — that if by any chance an abscess points in the neighbourhood of the umbilicus, it shows that the inflammation is suppuration causing it, has been due to Perimetritis, and that the abscess therefore is of peritoneal origin.

Both these diseases — Parametritis & Perimetritis in
a Purpuric woman tend to recovery. They have generally in my experience, pursued a benign course throughout. I have had 3 such cases - two of parametritis and one in which parametritis and perimetritis were combined. One of the cases of pure parametritis suppurred - the others did not. I opened the abscess just above Compart's ligament and although a troublesome sinus was left, which took a long time to heal up, the patient made eventually an excellent recovery, although she was not altogether out of my hands until nearly 5 months had elapsed since her confinement.

As a rule the cases are the least dangerous of the group of Purpuric Syptic Diseases. I should almost decline to consider they were syptic, but for an experience I had - I was attending a seemingly mild form of parametritis (the one that did not suppurate) - the case was recovering beautifully as I say, there
were no suppurative symptoms of any kind. Except this case of Parametritis, I had had no case of Puerperal Fever for nearly 12 months. I was attending no infectious disease at the time, nor had I recently done any Post mortem work. The case of Parametritis then in hand was pursuing such a mild course, and was as I thought distinctly traceable to a sudden chill which the woman had experienced, though too early getting up after confinement, that I had not considered it of septic origin, and had not notified its occurrence to the sanitary authorities. But whilst attending this case, I had one night, two other confinements. Four days later, these 2 cases had developed into the 2 most virulent cases of Puerperal Septicaemia that it has ever been my lot to witness. Both recovered, but although their cause of origin was a mild Parametritis case, neither of them exhibited Pelvic Inflammation.
Treatment of Puerperal Fever

The treatment of Puerperal Fever may be discussed under three heads viz. Local, Medical & Dietetic.

The treatment of Puerperal Fever has been given when discussing the symptoms of that form of this disease, so I shall not repeat it. Proceeding therefore to Puerperal Fever proper—
as the disease is due, partly at all events, to the entrance of Poisonous forms into the circulation and tissues by means either of the natural placental site in the uterus, or by means of some abrasion or sore in the genital passages. Naturally our first care is to prevent the admission of any further germs through these channels. That is, we endeavor to stop the supply. This we do by means of Local Treatment.

The best Local treatment is undoubtedly to squeeze out the vaginal passage, directly any out of the way, fibrille symptoms
manifest themselves after the delivery, and showed a high state of pyrexia subsequent, accompanied by rigors and other symptoms of septic mischief—the uterus as well as the vaginal canal should be washed out and rendered thoroughly aseptic. The most powerful agent for this purpose and the one most recommended is a solution of Picrolonide of Mercury of the strength 5 in 1600 down to 1:1000. I say the most powerful, but I do not think it the best. Indeed, with the exception of a few cases I think it should never be used.

When we have the inside of the uterus as it were—aseptic mass of corruption, or a castor oil, or a fluid blood clot and where there is only need for one thorough intrusive cleansing—then some such strong agent as Picrolonide of Mercury is not only permissible
but necessary. In a case of Euphemia, however if this class where we have the syphic mischief going or inside the blood or tissues, and where the local treatment is a mere adjuvant method, and only serves our purpose in rendering aseptic the uterine walls - the door of ingress - I what earthly use can it be to adopt such a severe method as to flush those delicate and absorptive walls, with such a powerful mercurial agent as a solution of Corrosive Sublimate? To my mind such a process is akin to crusading an ant with a steam hammer, or breaking a butterfly upon the wheel. All that our Local Treatment is required to do, is as I have said, to render the genital passage thoroughly aseptic. This is easily done either with a Boracic Acid solution, or a weak solution of Permanganate of Potash, without causing any of those disastrous effects which patients sometimes experience by the indiscriminate use of more powerful
agents. We must bear in mind that the uterine cavity shortly after delivery is one of the most delicate substances we could possibly have to deal with. In dealing therefore with so delicate a condition of such a delicate organ, I am distinctly of opinion, that unless there is some actual putrefactive mass or its remaining products, that we wish to act upon, and to as if it were immediately sloughed upon, we should never use a solution of perchloride of mercury for intra-uterine purposes, and even in such a case, it should be only used once — once for all and the act immediately followed by the washing out of the same cavity with a copious flushing of warm water.

As regards preventing the entrance of Joismans gumms — the use of a vaginal or intra-uterine injection of a weak solution of lodgy fluid or 1 part of permanganate of potash to 150 of water is all that is requisite.
Two cases of Pythacemia in the Punjab state, which came under my care, and which I treated locally with a solution of Perchloride of Mercury 1-3000 exhibited the most alarming consequences. In the one case—a few minutes after the injection, a most alarming faintness and subsequently a perfect collapse ensued which lasted for an hour or thereabouts. The pulse was almost indistinguishable at the wrist, the patient was quite conscious but bathed in cold clammy perspirations. Hot water bottles to the feet, and plenty of blankets wrapped round her, and effusions doses of Brandy finally brought her round. The act of opening could not have been the cause of this as she had had an intra-uterine injection of hot water, twice daily for two days before this occurrence, without the slightest bad result from the injection. She was moreover the reverse of nervous, and was a multigaram
and for other reasons well
used to being sprung at
periodic intervals.

The other case was a
woman who 3 days after de-

delivery, had a febrile temperature
and the lochia smeljing rather

faint. I washed out the utera
with a Boracic solution twice
that day. On the following
morning, the lochia appearing
quite as unsatisfactory, I re-

solved to try the Perchloride of

Potassium. This I did in the
strength of 1 in 2000. She was
certainly a young and nervous
woman, but she had borne
the previous day's injections
perfectly well. I had not

however quite finished the
injection of this Perchloride
Solution, before my patient
was thrown into a perfect

conversion. It was not

Hystoria, nor was it epilepsy.

It lasted but a few seconds,

but seemed to me, like a titanic

conversion minus the convulsion.

She had never had a convulsion
before, for this had not been since. During the attack she was quite unconscious, and I have no doubt the whole affair was due to shock caused by the strong sudden action of the solution of the Picroside of mercury upon the uterine cavity and the uterine glands.

After that day, I for some days washed out the cavity with weak Permanganate solution with out the slightest repetition of the above alarming condition.

Hence my practice and advice—never to use a solution of Picroside of mercury for intra-uterine purposes except in a case of Tachycardia, and even then only once it once and follow its use by the conjugate flushing out of the uterine with warm water.

For all other purposes of intra-uterine injections during Peripalpeptic disease, the best and safest local agent is a 1 in 150 solution of the Permanganate of Potash.
Medical Treatment - In a case of Paroxysmal Pyrexmia if this part, directly at the onset of the Pyrexmia, the best plan is I think to give the patient ten grains of Sulphate of Esmirine in a little milk. Then for three days afterwards I always give the following medicine - Tincture of the Pyrochonide of Iron, Compound Tincture of Camphor, and Sulphate of Esmirine combined. The dose I give is - one drachm of the Tincture of the Pyrochonide of Iron, one drachm of the Compound Tincture of Camphor and five grains of the Sulphate of Esmirine in each dose - the dose to be given three times a day and once during the night, for three days. As far as I am aware, I have never seen or heard of the above combination recommended in Paroxysmal Fever but I have had thirteen cases of Paroxysmal Fever in my four years Practice, which cases have included some of the most violent forms of the disease that I have ever read about, or that could
be inspired. I have pursued the same medicinal treatment in each case. I have conducted all these cases to a successful issue without a solitary exception, and therefore I think I may be pardoned in looking for this combination of drugs as an almost absolute specific in the medicinal treatment of this disease. Each of these drugs is powerful - two of them viz. the Carbonate of Eunicine being antiseptic and the other Iron - haematitic but I am convinced that the beneficial results from the use of this group of drugs is not so much due to the individual action of each, but to some peculiar change or modification, a disease I have that each possesses when, and in account of being, combined with the others.

Carbonate is antiseptic, antiputrefac, diagnostic, stimulating & often stimulating - redative

Eunicine checks metabolism by interfering with the oxidation of protoplasm generally - with
Oxygenation and with the associated action of enzymes. It reduces the temperature by diminishing the production of heat in the body, and acts therefore directly upon the tissues and not through the heat-regulating apparatus. Full doses of quinine, such as I have prescribed, diminish the pace and frequency of the pulse of the heart, strengthen diastole, and lower the pressure. It has also a direct action upon the cardiac ganglia of muscle and in the vessel walls. That is why I give full doses of quinine, as small doses accelerate the heart and raise the pressure. Camphor also brings relative to the cardiac ganglia of nerves often the initial stimulation — a combination of camphor and quinine thus gives us a powerful leverage upon the pulse even apart from the temperature and it is my quinine that in a case of Paroxysmal Tum, if we succeed in controlling the pulse we shall "you facts" control the disease.
The antipyretic and tonic action of the poison will be going on at the same time, as also its direct action upon the poisonous gums in the blood and tissues. But the fact I wish to emphasize and bring out in this form is its powerful and peculiar action upon the gums when associated with Canthar.

With the above drugs, I incorporate them chiefly in account of its being a blood stimulant. It combines with the hæmoglobin and is accordingly beneficial as a haematinic. By directly stimulating the blood, and ensuring abundance of oxygen, it thus counteracts the poisonous agency of the gums in microscopical which live and multiply and exert their deleterious influence chiefly by depriving the blood of its oxygen.

It also acts as a direct tonic through the blood, to the body as a whole, and there is no one of the ordinary excerting organs which we cannot imagine would be directly benefited.
by the action not only of iron but of the other two drugs men-
tioned. We have endeavored to show that as one of the factors
in producing Parrynae tooth, or rather in allowing Parrynae tooth
to occur, a deficient excréting apparatus plays a great part.
I maintain therefore that
Erminie Iron & Camphor in combinaiton acts beneficially upon
all the in obviating the bad
results caused by all the
factors of this disease. It not
only staves and destroys the
poisonous gums, but it also
is a direct remedy for the
to
morr mortlck blood flowing through
the system of any patient, and
exerts a secondary beneficent
influence upon all the organs of
the body, including those organs chiefly at fault and connected with excreting
processes. It has been fa ted
in my hands, and I am inclined
to think, that if the local treat-
ment is carried out as described
before, a course of this medicine
with almost cure any case of Profuse Diarrhoea. I have said that these drugs should be given for three days, at the end of that time we should have an almost normal pulse and temperature. If that be the case I am in the habit of leaving the Enemiac out of the Prescription altogether, and pursuing for another week with the Iron and Camphor alone. At the end of that week, I drop the Camphor also, and for a fortnight or three weeks or the case may require I allow the patient to continue with the Iron alone.

This is the main medicinal treatment of this disease. If there be much diarrhoea it is necessary to give some such dry as Opium to stay it twenty drops of Tincture of Opium combined with fifteen grains of Subnitrate of Bismuth and half a drachm of Bicarbonate of Soda will be useful as an occasional dose, in both checking the diarrhoea.
and to alleviate the vomiting should sickness exist. I am never too soon anxious to stop the diarrhea, unless it is very excessive, as doubtless a certain proportion of poisonous products will find an exit from the body in this way. If there be much pain and delirium an injection of one-thrid egg again of acetic acid of morphine may be given subcutaneously.

The Dietetic Treatment

Brandy, egg and milk, and as much of it as possible is the best diet. I usually give a tablespoonful of brandy every three hours for the first 24 hours, and afterward half that quantity, three times a day, in a tumbler full of egg and milk, until the sickness has abated - and then a gradual return to ordinary diet, as often a normal confinement. If the sickness be great - iced champagne will be found beneficial - and if within 48 these can be
Retained by the stomach, we must give nutrient enemata.

Even if there be diarrhoea at the same time, we can use the nutrient enema given below, by adding 20 drops of Laudanum & 40 grains of Peris & Bismuth to the enema.

The nutrient enema I generally use is - equal parts of cold milk and hot thick water, to every nine ounces of 20 Y, which mixture is added one drachm of Binger's Liqueur Pancreaticus. An egg may also be beaten up with it.

If this enema be not retained, solid tinfole suppositories may be used.

Precaution against Rinitis.

The medical and dietetic treatment of this disease is exactly the same as for the jejunal division which we have just described, with the exception that it is more important to keep the bowels absolutely constive, and the great pain which the patient suffers from Rinitis...
renders it necessary to exhibit opium freely. I give two grains at the outset, and one grain every 3 hours until the pain abates, or symptoms of narcotism manifest themselves.

Local treatment. Gargetine fomentations give great relief, but I find hot bruised meal poultices applied every three or four hours first, and all smeared with glycerine of Belladonna.

As regards vaginal and intrauterine irrigation, I use a solution of Permanganate of Potash 1-150 in this division also, and especially when the Pituitritis is the result of what I have called Pyléacacemia Pyrexia.

I do not think I have before mentioned it, but it is an important fact that very often is in a large number of cases - Pyléacacemia is accompanied by or preceded by Pyléacemic Pyrexia.

I have mentioned that these
divisions are arbitrary.
Any case of Perineal Fever may run the whole gamut, beginning with Pyrexmia and ending with Pelvic Cellulitis or Hectic Fever, and therefore in discussing the treatment of Perineal Fever, we must not only follow the chief treatment of the presence of Cautery on the one hand, and intra-vaginal antiseptic douches on the other, but also in addition treat other grave symptoms as they arise, if they do arise.

I have mentioned nothing of treating the Peritonitis with cold applications, or treating the Pyrexmia with baths varying in temperature. I have never tried such methods and am not at all inclined to try them, and I wish to write nothing that I have not either seen or tried myself.

Pelvic Cellulitis (Parametritis)

Pelvic Peritonitis (Perimetritis)

The only additional thing in the way of treatment to say
Of these - is that when they suppurate, and an abscess forms - it should be opened at once under strict antiseptic precautions. To open one of these abscesses (I have only had to do it once in connection with this disease), I used Hilton's method. I made an incision through the skin - just short a director into the abscess, along the director I guided the points of a pair of dressing forceps. Then by opening the forceps and withdrawing it, the opening is sufficiently enlarged. Then I introduced a large drainage tube to the full depth of the cavity - cut off the end of the tube, leave with the skin, and secured it by loops of carbolic acid. Having thrombosed the tube, and laid flat upon the skin, under-neath the gauze dressings.

The abscess was rather dry, a very troublesome sinus was left, which I found difficult to close up, but aided by strapping the gauze dressings it eventually did so
In opening an abscess, reddening of the skin is sufficient to show that there is no fear of going into the peritoneal cavity. If the abscess be deep down—a small aspirating needle may be used to explore matters.

If also we can feel a fluctuating swelling in vagina it is best to first fill up with the aspirating needle, to verify the presence of pus, and then open it through the posterior vaginal fornix—afterwards using a self-retaining elastic catheter as a drainage tube.

Before suppuration takes place in these cases, I should like to add, before quitting the subject, to say that I have had excellent results from using a vaginal injection of hot water as the patient can bear, and repeating it several times. In my estimation, such a regime greatly helps the absorption of the exudation.
Such are the lines upon which the active treatment of Puerperal Fever should be carried out.

As regards the Preventive Treatment or Prophylaxis of this Disease, we must also bear in mind the 3 factors which originate this Fever, and direct our treatment accordingly.

First of all—during the pregnant stage we should ascertain so far as is possible the exact family history of our Patient. We should endeavour to find out if perhaps she may have some lurking or chronic ailment in her system or a family pre-disposition to such disease. We should try to repair or remedy such defects in her constitution if present, and by all means in our power, to keep her in as good a state of health as possible. Obstinate persistent vomiting during Pregnancy should be controlled. Perfect sanitation should prevail in the house. Good ventilation, abundance of fresh air, and out-door regular and moderate daily
exercise for the patient should be insisted on. Her diet should be modified, and all food should be of an easily digestible character.

During labour, great care should be manifested during the 3rd stage. It should be a point of extreme importance that the medical attendant should ascertain that every particle of placenta and membranes have been expelled from the genital passage of uterus. The hands & all instruments used during labour should have been rendered thoroughly asphyzied, by washing or soaking in some antiseptic solution such as a Carbolic solution of the strength of 1 in 40.

A ruptured Perineum should be at once stitched up, and antiseptic dressing supplied. If there is reason to believe that there are evacuations of cervix or genital canal, these should at once, and at regular intervals, be syringed with a warm antiseptic solution.

I think it a good plan, after every labour, normal or abnormal
to sprigs out the uterus by gen-
ital passage, with a warm weak
solution of Epsom Salts, twice daily
for a week after delivery.

The patient should be kept
extremely quiet after delivery.
She should be thoroughly isolated
in a clean, cool, well-ventilated
chamber, and should be kept
from noise and excitement of
any description.

If notwithstanding all precautions
we should be in attendance upon
a case of Puerperal Fever, it is
as well, where possible, to give
of all further Midwifery Practice
for a clear month duration.

Where this is not possible (and
it is by no means absolutely nece-
sary) the clothes of the Medical
attendant should be entirely chang-
ed and disinfected by steam be-
fore wearing them again at any
other confinement. A Turkish
Bath should be taken, and the
body thoroughly asphyxiated by the
strictest antiseptic precautions.

By doing this we get rid of
all poisonous gums, and this
disinfecting process is always nec-
essary, inasmuch as we do not
know, who our next patient may
be, and whether or not she
may be a person predisposed
to this disease, as in a great
many cases, the onset of the
fever itself is the first possible
sign we can have of such
pre-disposition.

If a practitioner takes these
precautions, it will not be ne-
cessary for him to give up midwif-
ery practice for a single day, if
notwithstanding this utmost
effort, his very next patient
should be a victim to this disease.

This conscience cannot accuse him
of being the conveying medium.
He will then have met with a
case already predisposed to the
disease, from causes or conditions
I have mentioned. He will
then best occupy his time in
curing the disease, and leave
the causes and rationale of
its occurrence to the workings
of an Inscrutable and Omnipotent
Providence.