

ProQuest Number:27539352

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 27539352

Published by ProQuest LLC (2019). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code
Microform Edition © ProQuest LLC.

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

Puerperal Fever.

There is probably no disease a medical man in general practice is called upon to treat to which he has a greater aversion than Puerperal Fever. For not only is the knowledge of it but scant and its literature insufficient and unsatisfactory, but it is the disease, par excellence, whose occurrence is popularly attributed to carelessness on the part of the medical attendant:— an accusation which though in most cases unwarrantable yet derives confirmation in the public mind from the fact of its being generally confined to the patients of a single practice, amongst whom it spreads with a rapidity, and is often accompanied by a fatality, no less alarming to the unfortunate practitioner whom it haunts than suggestive to his clients of something about himself or his mode of practice being to blame for the occurrence of the terrible disorder. And not only to the public but to the medical man himself the possibility presents itself that in some way or other he may, in reality—

realize he is to blame, and forthwith he sets himself to consider whether, at the time the pueral fever began, he had any other cases on hand of such a nature as might, through the medium of himself, have infected his pueral patients: - if he happens to have a simple case of Scarlet fever under treatment or an erysipelatous wound to look after, his mind immediately rests on this fact and satisfies itself that therein lies the whole explanation of the unfortunate outbreak: - or, failing that, if he chances to have assisted at a post-mortem examination about the time of the occurrence of the fever, he is glad to look upon the one as the aetiological antecedent of the other. - And, while to many men, whose veterans in practice, pueral fever is one of the few diseases they have never happened to encounter, to the few, who are unfortunate enough to have been pursued by its ravages, it is one whose unlooked-for onset, whose characteristic symptoms, and whose rapid and frequently fatal course proclaim it to be a most virulent disorder,
and -

and one which the subjects of it are unfortunately little fitted to cope with. - The late Dr. Paxton of this town, who conducted a large practice embracing a fair proportion of midwifery, in the course of 35 years active work, only encountered 6 cases, (of which 4 were fatal) and yet, acting as he did for the Crown, it fell to his lot to make many post-mortem examinations in the course of each month. - Still in the footsteps of some men this fever must occasionally follow, for it is a fact that, in England and Wales alone, about 3000 women die annually in childbed, and a considerable proportion of these deaths are caused by Puerperal Fever. - But though, among those who are brought face to face with the disease, some are able to find circumstances in themselves or in their practice which, according to the teaching of books, may afford an explanation of how it has originated, there are others, as in the cases about to be narrated, who are unable to refer the occurrence of the disorder to any recognised cause whatever, and who are obliged to look upon it

as auto-genetic in origin. -

Dr. Macfarlane, doing an extensive practice but with a small proportion of midwifery cases, in this town, encountered, in the course of two years, fourteen cases of Puerperal Fever, of which fortunately but one died. - On 8th August 1877 he attended a woman through an easy labour; a few days afterwards she took the fever and died from it. - At the time he had no infectious cases in his practice and for some weeks he had made no post-mortem Examination. - His next two cases, occurring on the 16th and 17th of the same month, both contracted the disease. - Between the 17th August and 12th November, he attended three confinements all of which recovered perfectly, but on the latter date he delivered a woman who swam for her life through a most severe puerperal attack. - Then came two cases which did right well, to be followed by one on 5th December and other 2 on the 26th which all went wrong. - From this date till early the following August, the history of his midwifery practice was as above -

above, - an alternation of cases going on to a satisfactory convalescence with others, enjoying equally favourable circumstances, developing symptoms of undoubted Typhoid Fever. - Very curiously, he attended on the 10th April 1879 two cases, one of which he never touched, - the chief being born on his arrival and his duties consisting simply in applying a bandage and expressing the placenta, which he did without at all introducing the fingers within the maternal parts, - whereas the other presented many difficulties and necessitated, for the completion of delivery, the application of forceps, the perinaeum being much torn in the process of the child's birth. - The first of these cases recovered slowly from a most acute attack of Childbed Fever, while the second convalesced rapidly without the development of a single febrile symptom. - Since August 1879, the disease has altogether disappeared from this gentleman's practice. -

How then is such an erratic outbreak of a disease, which is by many believed to be communicable -

communicable by contagion only, to be accounted for? - it is evident that contagion alone does not explain the occurrence of every case, else why did not the second of the two cases attended by Dr. Macfarlane on 10th April 1879 incur the disease as well as the first? - Rather than the first indeed? For, after the instrumentation to which the patient was subjected and the lacerations by which her perineum was torn, her condition was evidently one much more likely to be injuriously affected by contagious influence than that of the other who was not manipulated at all. -

In my own practice I attended three accouchements, one on 1st January 82, and two on the 13th of that month, each of which, about the third day after delivery, manifested a high temperature, - from 101° to 104° - experienced rigors, headache and other symptoms of a suspiciously febrile character: - in each case happily the alarming symptoms subsided under treatment, but their occurrence was suggestive of some contagium having been introduced into the systems -

systems of these three women. - At the time, I had many mild cases of measles under my care, but no other infectious disease. -

Dr. Robertson of Manchester relates that in 1846 upwards of 400 women were attended in their confinements at their own homes by twelve midwives connected with the lying-in Hospital of that City. - Sixteen of these 400 took Puerperal Fever and died from it, and on enquiry, it was ascertained that all of these cases had been attended by one midwife, who alone of the twelve had Puerperal Fever to contend with among her patients. - It may be presumed that the surroundings of this particular midwife were in no way different from those of the other eleven, so that there must have been something connected with her in which she differed from the others, and "in medical philosophy we cannot fancy that this something consisted of aught else than some form of that morbid principle or virus to which pathologists give the name of Contagion!" -

It seems to be beyond doubt that Childbed Fever -

Fever can be conveyed directly from one parturient woman to another by a third person, that third person most commonly being the doctor or nurse, and a striking testimony to the truth of this is afforded by Sir James S. Simpson, in whose works, edited by D. Black, it is recounted that in the year 1836 Mr Siday of Edinburgh had a rapid succession of five or six fatal cases of Puerperal Fever in his practice, at a time when the disease was not known to exist in the practice of any of the practitioners in his locality. - Dr Simpson, who had then no full and proper belief in the contagious propagation of Puerperal Fever, attended the dissection of two of Dr Siday's patients and freely handled the diseased parts. - The next four cases of midwifery which Dr Simpson attended were all affected with Puerperal Fever, and it was the first time he had seen it in practice. - Dr Patterson of Leeds examined the ovaries &c from these cases in Dr Siday's lodgings, as he was at the time collecting facts for valuable papers on Corpora lutea. - The three next cases which Dr Patterson attended in that town were

affected -

attacked with the disease." - Striking facts, such as these, put it beyond doubt that the poison of Querceral Fever, be it what it may, is capable of being transferred from one patient to another in whom it will give rise to the disease, but it is still an unexplained mystery how, in many cases, the disease is originated, because there is ample record of cases, similar to those above related, in which the disease has sprung up, as it were, de novo, without the medical man in whose practice it occurs being able to trace its origin to any of those influences which it is admitted may, if carried to the parturient, give rise to it. -

Quite recently, a series of most interesting Experiments, conducted by Drs Draidwood and Vacher, have been reported by these gentlemen in the pages of the British Medical Journal, (Jan & Feb 1882) which go far to throw an entirely new light on the Etiology of Querceral Fever and to dissipate the darkness which, until now, has surrounded the starting-point of this disease. - The important fact which -

which is demonstrated by these valuable experi-
 ments is that "normal human lochial discharge
 of the fourth day after delivery is septic to
 rabbits" and that "it invariably induces in them
 Septicaemia, as proved by post-mortem examina-
 tion." - Not only so, but these gentlemen
 came further to the conclusion that "the septic
 influence of human lochia on rabbits is due
 to some special property in it (*Sui generis*) and
 is not connected with the presence in it of
 micrococcal organisms." - In corroboration
 of these Experiments, F. A. Hehrer (*Versuche
 über Entzündung und Fieber-erregende Wirkung:
 gen der Lochien: in Centralbl: für die Med.
 Wissen. January 15/16.*) states that the subcutan-
 eous injection of lochia, from healthy parturients
 into rabbits, excited always severe inflammation,
 and that lochia in a few days later produced
 great abscesses which could not be distinguished
 from those produced by putrid lochia of an
 earlier date. - Lochia of the 4th to the 6th
 day killed the animals with the symptoms
 of inanition. - The temperature rose somewhat,
 but -

but this varied, - and sank before death: Inoculation of the parturient herself on her legs with lochia on the third day was always followed by an inflammatory process at the site of puncture! -

Here then we seem to find some clue to the original cause of this disease and are afforded some explanation of the anomalous manner in which frequently it sets in. - But it may be asked why, if this be the explanation, does not Puerperal Fever attack every parturient woman, each of whom has equally to contend with the presence of lochia? - This difficulty may be got over in two ways: - in the first place, every woman does not receive lacerations in the course of the generative tract during the progress of labour, and it is evident that where abrasions of the surface exist the tendency to Childbed Fever from absorption of the vaginal and uterine discharges must be materially increased, - always however bearing in mind that the Fever, even in these cases, may be avoided by the wounds or abrasions becoming covered -

covered with a film of lymph, or partly granulated, before the third or fourth day when the lochia becomes infective. - Then again there are another class of women, - and those the majority, - in whom fortunately the uterus, after childbirth, becomes and remains more firmly contracted than in some, and here also it is undeniable that these must incur a comparatively slight risk of Fever, because we know that the mucous membrane of the interior of the uterus contains highly absorbent lymphatics in great abundance, and, in the absence of sufficient contraction, there must be a considerable surface exposed to the full action of the lochia in which these absorbents will be completely bathed. - Then it must not be forgotten that, at this particular period, the uterine lacteals, from the part they play in the process of involution, are specially active and ready to absorb with avidity any fluids brought in contact with them; so that wherever there is the slightest tendency to incomplete contraction of the womb, the liability of that patient to Puerperal Fever -

Fever, other things being equal, bears a direct ratio to the incompleteness of the process. -

But, apart altogether from those accidental causes of lochial absorption, it ought to be noted that in the case of this, as of every other disease, there must be certain women more susceptible to its attacks than others, and who, from this particular diathesis, are unable at any time to come through the trials and dangers of child-bed, without placing their lives in the utmost jeopardy. - We know that in the case of all women after confinement, the blood is in a peculiar condition; - it is hyperinotic, the fibrinous element being very much in excess - as much Dr. Richardson tells us as from 3 to 6 or even 8 parts in the 1000: - besides this the salts naturally present in the healthy fluid are diminished; changes which give rise in the blood to a condition eminently favourable to precipitation of the colloidal portion of it. - Then again the woman has for nine months had to supply sufficient nourishment for the-

The growth of her child, a supply which now, being no longer demanded, is at the moment of birth suddenly thrown back on the system already exhausted by the pains of labour and the greater or less loss of blood accompanying the process, and which is then called upon to make still a further effort to accommodate itself to its altered circumstances; to establish the function of lactation; and to complete the involution of the uterus:— the meaning of all this being that her supply of nervous energy is seriously taxed and its balance much endangered; that indeed she is in a most suitable condition for the reception and development of disease, and more particularly of the disease which is now engaging our attention, for, apart altogether from the fact of the local conditions being favorable to the absorption of poisonous material, her general state is even more favorable to the development of the septic influence after the poison has been taken in; for one of the principal effects—

effects which this poison manifests is coagulation of the blood especially in the smaller vessels, and as the blood in the parturient is already in a condition predisposed to deposition of its fibrinous elements, it is evidently specially liable to the action of a poison acting in harmony with its tendencies. Further, as she bears within the natural discharges of her generative organs a latent potentiality, - capable under favorable conditions of causing this disease which, of all others, is most deadly to the living - in woman, and to which she is most eminently susceptible, - one cannot help wondering that it occurs so comparatively rarely; - but, as in everything else, so here, Nature adopts the most complete and admirable means for the successful execution of her own laws, and only when these are in some way or other interfered with, do other equally immutable laws come into force and give rise to consequences, in perfect harmony with Nature's great plan -

plan, but most disastrous to the patient's satisfactory convalescence and very frequently to her life. —

If it be granted ~~that~~ that Puerperal Fever may arise, in a woman predisposed thereto, by the absorption of lochia, we at once get over the difficulty of its origination in cases where there seems to be no outside influence of any kind which can be found satisfactorily to account for the outbreak. There are however many other cases where careful investigation reveals the fact of the practitioner having had to deal, at the time of the commencement of the Fever, with other cases of such a nature as not improbably to form some link of connection in the occurrence of the dreaded disease. — Thus it is pretty generally admitted that Scarlet Fever or Erysipelas, conveyed by the medical attendant from a case of either disease to a woman in childbed, may cause in her Puerperal Fever pure & simple, or the particular disease conveyed so altered owing to the woman's condition as to make the symptoms by which it manifests itself
little —

little is any different from an ordinary attack of Septic Fever. - But are we quite sure that only a few diseases have this special tendency? Might not be that every disease of an inflammatory nature is capable, by contagion, of giving rise to febrile symptoms in the parturient, and that Scarlet Fever, which is the disease most commonly blamed for behaving in this way, is no different from any other of them except from the facts of the greater frequency of its occurrence, and its more virulent and communicable nature? Thus may not the three cases, already mentioned as having occurred in the writer's practice, be traceable to the circumstance of his having had at the same time to look after many cases of measles, the inflammatory contagium from which was so slight as to cause only a modified disturbance of the patient's system, easily amenable to treatment, but still a disturbance whose symptoms at once suggested commencing Cerebral Fever? - In those days when germs seem likely to be found to account for disease of every kind, it is not unreasonable to -

to suppose that the lying-in woman maybe in some risk of receiving dangerous contamination from any medical man who happens to have at the same time to deal with acute febrile cases of any kind, and that indeed Acute Tuberculosis may, as well as scarlet fever, so infect a doctor or nurse as to make either the unfortunate medium through which Puerperal Fever is induced in the parturient patient.

Sir James G. Simpson believed that all that was necessary for the production of Puerperal Fever in a predisposed subject was the inoculation of an "inflammatory secretion" - It is true that no contagium carried by a doctor from say a case of Measles could be properly described as an "inflammatory secretion", but is it not possible that this contagium, either by direct contact with the post-partum discharges or secondarily by transmission through the system of the woman, may so act on the lochia as to intensify the tendency it naturally has to give rise, if absorbed, to Septicæmic Fever, and to so increase its virulence as to cause an outbreak -

outbreak of the disease in the woman who, but
 for the introduction of this inflammatory influence,
 would in all probability have convalesced without
 any febrile disturbance? - Some corroboration
 of this hypothesis is afforded by Dr. Beishman who,
 in common with most others, rejects the theory of
 the existence of a specific puerperal poison, and states
 that if we "admit that the symptoms which we
 call Puerperal Fever may arise from a number
 of different poisons or causes, and that the appar-
 :ently specific character of the disease is due,
 not to anything specific in the cause, but to the
 peculiar pathological condition under which
 a puerperal woman lies - then we shall see
 some rays of light through the clouds" which obscure
 the pathology of the disease. - Simpson also
 believed that "the inflammatory secretions in
 some other inflammatory diseases besides Puerperal
 Fever, when carried by the medical attendant
 and inoculated into the maternal canals of a
 parturient female, were sometimes capable of
 producing in such females true Puerperal Fever:-
 Since then it is evidently true that some
 inflammatory -

inflammatory diseases are capable of this virulent effect, may it not be assumed as likely to be equally true, in a greater or less degree, of all inflammatory affections? - there seems to be nothing distinctive about Scarlet Fever or Erysipelas by which any special relationship can be traced to Quercal Fever except this, that we have them, especially the former, constantly among us and that they are both most undoubtedly eminently contagious. —

Assuming that the etiology of Quercal Fever, as above outlined, is approximately correct, it follows, as a necessary consequence, that all views as to its epidemic character must be discarded as erroneous, and this aspect of its nature, though one about which there has been some diversity of opinion, is yet most in consonance with what we know of the history of the disease and in accordance with the expressed views of many eminent accoucheurs. - In the first place, as regards what we learn from its clinical history, we find that no account is anywhere given of its having occurred, as do the ordinary specific fevers -

fevers, over a given district, at a given time, in such a measure as to entitle it to be classified as an epidemic outbreak, or in a degree sufficiently aggravated to add appreciably to the death-rate of any particular locality; thus Dr. Matthews Duncan points out that in London, while "Scarlatina rises from a lowest mortality of 3 per week in non-epidemic times, to a highest mortality of 24.5 per week in a great epidemic, or a rise of 81 times its lowest non-epidemic amount, the rise of purpurial Fever mortality from an occasional weekly zero amounts to a rare maximum of 19 weekly"; this, however to remark "is no evidence of epidemic character, for much greater rises & falls occur in diseases which are recognised as not epidemic, and occur also in pure accidents, as may be easily illustrated in any great census return." - And apart from this valuable evidence, we have to guide us this other striking fact, that, when the disease does occur, it is almost invariably limited to the patients of a single practice, - though it may spread to the practices of others, provided they put themselves in a condition to

Carry-

carry the contagious virus from the patients of the first practitioner. - Among these patients doubtless it is epidemic in so far as it may attack all the puerperal cases which the practice embraces, but epidemicity of this kind can be fully and satisfactorily accounted for by contagious influence or by auto-genesis and does not require to be referred to any atmospheric or other condition such as are sought for in explanation of an ordinary outbreak of what are recognised as undoubted epidemic diseases. - Among the many men who have borne evidence to the non-epidemic nature of the disease, we have the testimony of Dr. Leishman already quoted, and of Dr. Richardson who stated, at a meeting of the London Obstetrical Society held in April 1875, that he did not think there was a special poison creating Puerperal Fever, that in fact there was "no special form of Puerperal Fever, no one particular type of the Disease" - At the same meeting Dr. Graily Hewitt remarked that "Puerperal Fever is essentially a form of Pyaemia" and he entirely disbelieved in the Existence -

existence of a form of Fever which is sufficiently definite and precise to receive a distinctive name. - Dr George Hunter of Dunblithgow, in the course of a paper published in the Edinburgh Medical Journal of September 1876, says: "This, from combined clinical observation & Experiments: on animals and from the evidence attainable from Symptomatology, Pathology, & Morbid anatomy, we are justified in regarding Puerperal Fever & Septicaemia as one and the same disease." - Dr Matthews Duncan considers that Puerperal Fever bears the closest resemblance to Surgical Pyaemia and denies that epidemics of Puerperal Fever or Pyaemia ever occur, its ravages following a very different law to those for instance of Small-pox or Cholera. - If then it be admitted that Puerperal Fever is neither more nor less than Septicaemia or Pyaemia modified by the physical conditions of the patients attacked, - a view which is the one most consistent with the knowledge we yet possess of its course and symptoms - we must admit that the latter certainly not being epidemic in nature, neither can the former be, and -

and that the fact of its occurrence being rarely limited to a single case is the result of insufficient precautionary measures being taken to prevent the spread of a disease which is admitted on all hands to be, to a degree, communicable by contagion. -

Viewed in this light, the definition of the disease given by Dr. Aitken in the 6th Edition of his *Practical Medicine* is one which, - with the addition of the words 'or arising spontaneously', - very fairly embraces its real character: he defines it as "A continued fever, communicated by contagion, occurring in connection with childbirth, and often associated with extensive local lesions, especially of the uterine system." -

According to different authors, the varieties and definitions of Puerperal Fever are endless, and were one to attempt to gather them ^{all} together with a view to classification or enumeration of symptoms, the resulting conclusion would be such as to excite suspicion that the various authors had been describing utterly different diseases; but, taking an ordinary -

ordinary typhical case, let us endeavour to grasp the leading symptoms as they present themselves clinically: - For the first two or three days, - occasionally even for a longer period - after the birth of the child, the mother seems to progress quite satisfactorily, but on the morning generally of the 3rd or 4th day she complains of having had a broken night's rest, of frontal headache, lassitude, anorexia, probably thirst, and very frequently of some discomfort, not amounting to actual pain, in the hypogastric region. - Her pulse is quickened and reaches perhaps from 90 to 110, while her temperature may register 101° or upwards. - The tongue is slightly coated but still quite moist and already she may have experienced a sense of chilliness - In the course of the day she is seized with repeated slight shiverings or with a rigor more or less severe in character. - These rigors do not invariably occur though in most cases, they form an important early symptom. - Succeeding this cold fit, the patient is attacked by a withering heat which seems -

seems, as she often tells you, to dry up all the pores of her skin; which shoots up her temperature to 104° , 105° , or even higher, - quickens her pulse till it may count from 120 to 140 or occasionally more, - parches her tongue which now has become dry cracked and deeply furrowed, - arrests or diminishes both the mammary secretion and the lochial discharge, - induces sometimes slight delirium, though this is by no means a constant occurrence, - and altogether plunges the patient, with alarming rapidity, into a condition of the most grave and eminent danger. - In a few cases, we are told that the skin, instead of getting hot and dry, becomes bathed in profuse perspiration, but certainly, as a general rule, sweating is unknown in the natural course of the disease. - Should nothing interfere with its onward progress, the symptoms gradually proceed from bad to worse; diarrhoea of a most offensive kind sets in, - very frequently vomiting occurs, - the temperature either continues to rise or at least does not diminish, - the uneasiness in the hypogastric region -

region has now increased to absolute pain which makes the patient extremely restless, - the abdomen becomes tense from latent distension which, gradually increasing and being augmented by fluid effusion, gives rise to still more acute suffering and causes the patient to complain of the least movement of the bedclothes, sometimes even of their weight, - from the arrest of its involution, the uterus becomes increased in size as may be felt by pressure through the abdominal walls, - the pulse becomes more rapid, thready, and latterly irregular, - the mammae are now flaccid & flabby, and lactation has become completely arrested, - the lochial discharge has either altogether ceased or is of small quantity and frequently foetid, - the patient lies sunk down in bed, her knees drawn up, her eyes half-closed, her breathing rapid & shallow, her almost livid face illustrating the well-known Hippocratic expression, and her whole condition manifesting the near approach of a termination to her sufferings. - ^{at} ~~the~~ ^{very} -

very long the surface becomes cold and clammy, the brain clouded, low muttering delirium accompanied by subsultus tendinum and floccitatio set in, and death ensues with all the symptoms of the most utter prostration and extreme exhaustion. -

Doubtless all cases do not run this unfavorable course, but the percentage of mortality in outbreaks of Puerperal Fever has always been high; - unfortunately, in spite of all treatment, the result too frequently is fatal, and rapidly so; the patient goes steadily downhill and shortly dies without her system ever having made one recuperative effort. -

The writer has never had it in his power to examine the dead body of a woman who has died from Puerperal Fever, but as there are different degrees in which the disease may manifest itself, so there must be a corresponding variety in the nature of the appearances which are found after death. - All authors however agree that in whatever other respects the appearances differ, there is one -

one post-mortem feature common to all purpural cases, and that is a peculiar state of the blood. - Speaking of it, Dr. Reichman says: "This Condition of the blood, which has been frequently remarked, points very significantly to the operation of some powerful miasmatic poison. - In the cases which prove most rapidly fatal, nothing may indeed be revealed on examination beyond this peculiar condition of the blood, and, it may be, a little turbid serum in the peritoneum and the other serous cavities." -

The treatment of Purpural Fever, like that of every other disease, falls naturally to be divided under two great heads, - the prophylactic and the curative; but, on glancing at the methods adopted by the physicians of bygone times, one cannot help being struck with the fact that but little attention was paid by them to precautions and methods for the prevention of the disease, while the most diverse modes of curative treatment were adopted by different men; thus, while some advocated the free use of the lancet and liberal administration

of -

of purgatives, others with equal vigour stimulated their patients by every means in their power; and while some believed the disease to be so simple that mild alteratives only were required for its treatment, others were convinced that in its nature it was so deadly as to baffle, in a great preponderance of cases, every effort to stay its fatal progress. - It is quite evident that nothing could be more blame-worthy than to treat every case of Septicaemic Fever on a hard and fast plan, because much must depend on the virulence of the attack and on the stage the disease has reached when first brought under the physician's notice; symptoms, in some cases, will necessarily crop up demanding the most careful attention and special means for their alleviation, which in other cases are not present at all, and besides no two cases will entirely agree as regards physical constitution, so that treatment which, to one parturient, might be most beneficial would be wholly unavailable in the next case owing to her grip of life being less firm -

firm and to her vital powers being more exhausted.

There are however certain general principles which ought to guide us in the treatment of every case, and it is to these mainly that we now wish to refer. -

Since Puerperal Fever is essentially capable of being communicated from patient to patient by contagion, and as it further seems likely that it may originate 'de novo' within the generative tract, from absorption of the uterine discharges when these have become possessed of certain as yet undefinable properties, it follows that much may be done by care and proper attention on the part of both doctor and nurse to hinder the occurrence of the fever, and that therefore the prophylactic is a most important department of the treatment, - so important that no man is justified in neglecting any precaution which, being attended to, may diminish the chances of its supervention. - Every accoucheur ought to observe the most scrupulous cleanliness in dealing with his cases; - the hands -

hands should be well scrubbed, not only after, but also before each vaginal examination; the examining fingers ought to be carefully anointed with some antiseptic preparation. - Lenoir's fluid, carbolic oil, or, what perhaps is more agreeable than either of these, Thymol combined with Vaseline in the proportion of from 20 to 30 grains to the ounce. Turpentine may also be mentioned as a good disinfectant for the hands. - If in the course of labour, the maternal parts become lacerated, septic injections containing some antiseptic in solution ought to be used regularly, while, if the lacerations be extensive, they may be smeared over with the above preparation of Thymol or with Carbolic Oil. - Another indication for the use of antiseptic injections is that of the lochial discharge. - It need hardly be added that the patient's hygienic surroundings should be made as perfect as circumstances will permit, and that the practitioner should spare himself no trouble to obviate his bearing from his non-puerperal cases any contagious

Dr -

or other influence at all likely to increase the patient's liability to the disease. - Here the accoucheur only able to fence in his patient from external influences in the same way as can those Surgeons who follow in the footsteps of Mr. Lister of London, we might confidently look to Puerperal Fever becoming, as Surgical Fever would become were Listerism universal - almost an unknown disease. - Mr. Lister has demonstrated, & proved the accuracy of his demonstrations by the brilliant results of his practice, that the ordinary atmosphere is hurtful to External Wounds; - if this be so, surely it must be equally hurtful to Surface Lesions which, though not External, are yet to some extent accessible to atmospheric influences, and which are moreover bathed by a secretion having, 'sui generis', a tendency to become Septic. -

When we find a patient with a particular diathesis, we usually conclude that but little is required to intensify the natural bent of his Constitution and to turn the latent -

latent spark into the full blaze of pronounced disease: - in the case of the lying-in woman, if the researches of Braidwood, Pacher, and others be reliable, there is what might be called a Septicaemic Diathesis which likewise is ready, on but slight stimulation, to prove that it is no exception to the general rule. -

In dealing then with every case of midwifery, this natural tendency should be borne in mind and, though we are not yet sufficiently advanced to conduct confinements antiseptically, we should remember that the preventive treatment of Puerperal Fever consists largely in a strict adherence, as far as that is possible, to antiseptic doctrines. -

But, besides all these precautions of an antiseptic nature, there are others, hardly less important, which require to be noted: - It has already been pointed out that the more complete the contraction of the uterus after the process of labour is over, the less likely, other things being equal, is the woman to develop bad symptoms of Puerperal Fever: - here then we have a most valuable indication as

to treatment and, in order to meet it, two points have to be observed: - In the first place, the practitioner should cause the nurse to remain with him alongside the patient and, placing her hands firmly over the fundus of the uterus, should instruct her to follow it down as it expels the child, retaining firmly her grasp of it while he ties the cords and does what else is necessary; in short, his aim should be to prevent any relaxation of it and to promote the most complete possible contraction. - Where that is practicable, the placenta should be expressed without any traction on the cord. -

The other point to be considered in this connection is the use of Ergot and, while many accoucheurs do not approve of its administration except for the control of post-partum hæmorrhage or to aid the contractions of the womb when these are too feeble to accomplish their work, others recommend and practise its habitual exhibition. - Certainly it is the most powerful Ecbolic we possess and it is safe, in every case, as soon as the child's head has -

has reached the perinaeum, to give a drachm of the liquid Extract of the drug; - not only so, but, following the suggestion of Dr. Barnes, it is of advantage to prescribe a mixture of ergot, quinine, strychnine, and digitalis for every puerperal case, to be taken for from 6 to 10 days after delivery. - One other small point which may be simply mentioned is this; that the application of a firm pad, over the fundus and below the bladder, is likewise an aid to efficient contraction and, as such, should be used as a matter of routine. -

When speaking of the prophylactic treatment of Puerperal Fever, attention may be drawn to the Dietary of women after delivery, for it seems not unreasonable to suppose that, as the type of the disorder is asthenic, whatever kind to increase the patient's strength and to improve her general condition will render her by that much the less liable to its ravages, or at least the more able to fight against them; and besides the condition of the woman's blood at the time of delivery, indicates to us that her

system is calling out for ample nourishment in order that the deficiency in the natural salts of the blood may be restored as quickly as possible. - The old-fashioned theory according to which it was right to "stave a fever", was evidently not confined to cases registering a high temperature, for the invariable practice was, - and indeed, among a few of the older practitioners, still is - to stave the puerperal patient on tea, toast, and thin gruel for the first 8 or 10 days after the birth of her child. - As in the treatment of fevers, so in that of puerperia, this system is now very properly abandoned and the starvation treatment of former days is supplanted by a dietary consisting of milk, eggs, farinaceous substances, light soups, mild stimulants where required, and all articles of food calculated to nourish the patient and improve her physical tone without putting the organs of digestion to a greater strain than the woman's condition will enable them sufficiently to cope with. -

Unfortunately -

Unfortunately there are cases which, in spite of every care being taken of them, do exhibit unfavorable symptoms and the practitioner is called upon to put into practice those methods of curative treatment which are within the resources of his personal knowledge and experience, or of the literature which he has at his command. - Given then a case which on the 3rd, 4th, or later day manifests a febrile temperature and gives warning of an impending attack of *Puerperal Fever* or *Septicaemia*, what means can we adopt by which we are most likely to counteract its baneful influence? A careful examination of the uterus should, in the first place, be made to see that no clots or any part of the secundines remain therein, for they alone may give rise to intense febrile symptoms, thus Dr Playfair tells us that in many cases in which decomposing matters exist in uterus, the washing out of the uterine cavity night and morning with antiseptic lotions will

alone -

alone suffice to remove the source of mischief and cut short the progress of the disease.

Besides this, the other local conditions must be attended to and the antiseptic precautions, already enumerated as prophylactic measures, if not before employed, immediately put in force: - then, should the temperature be only moderately high, - from 101° to 103° - the pulse small, hard, and from 110 to 130, - and the skin harsh and dry, aconite is the remedy on which reliance should be placed: - It ought to be administered in minute doses of the tincture every ten minutes for the first hour, and thereafter every hour till twelve doses, or more, have been taken. - If the system responds well to the action of the drug, the skin will become moist, or even bathed in perspiration, because aconite acts as an antipyretic in virtue of its power of admitting a large quantity of blood into the cooling area of the skin; it, in fact, lowers the temperature by the withdrawal of heat, whereas quinine

the -

The remedies to which we apply when aconite fails - acts, in large doses, as an antipyretic by influencing the temperature centres so as to prevent the formation of heat: - The one drug, if it might be so expressed, is curative in its action, the other preventive. - Aconite is often intensified in its action by being combined with a saline such as the liquor Ammoniae Acetatis. -

In a certain proportion of cases, - of which the following are examples, - this course of treatment reduces the temperature and restores the patient to a condition of comparative safety, - for it is undoubted that high temperature per se is dangerous to life and as Dr Napier, in the course of his paper on "Clinical Observations on Puerperal Temperatures", communicated to the Edinburgh Medical Journal of October & November 1881, states, "when an abnormal temperature is discovered it should be reduced to the normal as early as possible by one or other agent. - It is", he says, "of the highest importance to bring it -

it down to 100° and keep it there or lower." -

500th 500: after her second confinement which was tedious from the existence of a narrow pelvis and necessitated for its completion the application of forceps, manifested on the morning of the third day febrile symp:
 :toms: - her temperature registered 103° - her pulse reached 120. - She had experienced one or two slight rigors, - complained of thirst, lassitude, and headache; - the lochia was diminished in quantity and she suffered from a feeling of discomfort, amounting to slight tenderness, in the region of the hypogastrium.
 Decoction was ordered, together with the application of hot fomentations to the vulva and before night the pulse had become soft and reduced in frequency, - the skin was bathed in profuse perspiration, - and her whole condition exhibited the most decided improvement. - Next morning she had slept well, - the temperature was scarcely 100°; - the lochia was increased in quantity, - and she expressed herself as feeling quite better. - Her recovery -

recovery from that time, was uninterrupted. -
 Mrs. J., on the fourth day after the delivery
 of her second child, manifested symptoms in
 all respects similar to those of Mrs. M., with
 the exceptions that the temperature did
 not exceed 102.5 and that the lochia altogether
 ceased. - A precisely similar mode of
 treatment was adopted with results equally
 satisfactory. - In the history of her labour
 there was nothing remarkable except that
 the first stage was very prolonged and the
 placenta was difficult to remove from
 slight hour-glass contraction. -

In both cases, the patients were healthy
 women and in neither of them were there
 symptoms indicative of the establishment
 of the function of lactation being responsible
 for the febrile seizure. -

In a certain proportion of cases, aconite has
 no effect in staying the progress of the
 disease which gradually proceeds from bad
 to worse; the temperature goes on increasing
 and, consequently with this rise of temperature,
 the -

the other symptoms likewise become more grave. - Should there be much complaint of hypogastric pain, opiates ought to be administered pretty freely, and one of the best forms in which the drug can be given is in combination with Calomel. -

If the bowels remain, - as in some cases they do, - very constipated, it is right to have them opened and, while it is better to avoid purgatives of a very drastic nature, the kind of drug best suited to each case must be judged of by a consideration of all the circumstances of the case in point; no one purgative is suited alike to all cases, though castor oil is perhaps the one most generally useful. -

Very often, especially where there is much involvement of the peritoneum, tympanitis is a most distressing symptom and the remedy beyond all others for its relief is undoubtedly turpentine which may be given internally in the form of capsules or applied externally as stupes over the whole

whole region of the abdominal parietes. -
 It must however not be forgotten, in our
 treatment of the crying symptoms, that the
 general condition of the woman must
 also be looked to; we must remember that
 the disease is one of exhaustion and that
 therefore every effort must be made to
 uphold the patient's strength: - light nourish-
 ing food, in small quantities at a time,
 should be given frequently, and it is best
 that all articles of diet be almost cold; -
 the thirst may be quenched by the use
 of ice; - the headache likewise may
 sometimes be relieved by the application of
 cold or of Dr Knowley's Thornton's ice-cats
 which also helps to reduce the temperature; -
 and where there is great or increasing prostra-
 tion stimulants must be had resort to; these
 may be administered in the form of brandy,
 in dessertspoonful doses, given in soda
 water as often as the condition of the
 patient's strength demands, and carbonate
 of ammonia, in combination with bark, every
 hour.

hour or two. -

But in a case which does not yield to treatment in its earlier history but goes on becoming daily and even hourly worse, - while it is necessary that all the points already referred to should be borne in mind and that the general condition of the patient as well as her individual symptoms should be, the former carefully watched, and the latter alleviated as they present themselves, there is one point of greater importance than all the others and as it is the symptom which often first excites our alarm and gives us the earliest warning of the approach of a grave complication, so it is frequently also the one which most stoutly resists every effort we can direct against it and not only in itself threatens the life of your patient but actually, in some cases, deprives her of it. - The symptom to which we refer is Pyrexia regarding which Dr. Prichard says "The persistence of a temperature above a certain -

Certain elevation is incompatible with the maintenance of life. - We do not of course know, with any degree of accuracy, what is the upper limit of temperature which is compatible with the maintenance of life in the human being. - We may say, however, with some degree of assurance, that a persistent temperature above 110° will certainly cause death, and that there is good reason to believe that a temperature above 107° cannot be supported for any length of time. -

Now in Intermittent Fever we generally find temperatures of a high range, 105° being a not uncommon register. According to Wunderlich 107.6 is often reached, and in a case which the writer attended when assistant in a large practice, the temperature every evening for 5 days registered 106° and once or twice slightly exceeded that figure. - It is evidently then a matter of the very greatest moment to find a means by which those high ranges of temperature can be controlled, and, as they occur in Exhaustive -

exhaustive disease, it is of importance that the remedies employed should be stimulating and not depressing in character. - Here undoubtedly we have the Germans to thank for a mode of treatment which even yet, on account of popular prejudice, is but little employed in this Country, for it is incontrovertible that cases manifesting hyper-pyretic temperatures in the course, - not only of Quarrel Fever, - but likewise of many other diseases, do give way to the influence of cold and large doses of Quinine when every other known remedy utterly fails to exert the very least controlling effect. -

Ringer tells us in regard to cold that "the immersion of fever-stricken patients in the cold bath, or packing them with the cold sheet, will produce a considerable and durable lowering of the temperature" - while, in regard to quinine, Niemeyer states that "it is one of the most powerful antipyretics and should be used when the fever is high. - It is customary," he says, "to give -

give a scruple or half a drachm during the day, and it is best to give such large doses, too, according to my experience, it is only from large doses that we can expect any decided effect on the bodily temperature and on the frequency of the pulse."—

Many authorities might be quoted in corroboration of these views but this is unnecessary as already it is pretty well admitted that good results are derived from this treatment:— unfortunately, in this country, too much time is as a rule put off ere it is resorted to, and, though the temperature may in the end be reduced, the rallying power of the patient is gone;— her disease is controlled but exhaustion claims her its victim.—

The popular prejudice against the application of colds to patients labouring under fever of any kind is very difficult to overcome, indeed so much so that consent can hardly ever be got, in private practice, to complete immersion in a cold bath as advocated—

advocated by Liebermeister, Schroeder, Ziemssen, Wilson Fox in this country, and others; - but the same results - or nearly the same - can be attained by packing the body with cloths wrung out of cold water; a method which is not so repugnant to the patient's friends. -

Dr Sydney Pinger adopts this plan, as does also Dr McCall Anderson in some cases of acute phthisis, and the former gives directions as follow for its successful carrying out: - " Dip four napkins or small towels into iced water and wring them nearly dry, so that they may not drip and wet the bed, then apply them one below the other from the chest downwards. - As soon as the four cloths are disposed over the chest and abdomen re-dip and re-wring the uppermost, then the second, third, and fourth serially, then the first again, and so on continuously. - Supplementary napkins to the head, thighs, and arms will of course more quickly lower the temperature; and indeed should be employed to a big and about -

stout patient, since large quantities of heat have to be withdrawn through the bad conducting fatty layer beneath the skin. - If the rappings are incessantly changed, this method is most efficacious and is often highly agreeable to the patient, being in this respect superior to the general cold bath, which is generally very disagreeable. He further adds that he has seen "the temperature in hyperpyrexia reduced by this method, in 2 or 3 hours, from 107° to 101° or even lower!" -

Here then we have a method of applying cold, in suitable cases, which we can as a rule persuade the patient or her friends to agree to; - which is more convenient in private practice, where baths of a suitable kind are not found in every house; - and which causes the patient the minimum of fatigue and disturbance. -

As regards the mode of the quinine administration, it must be given in large doses as only then does it possess antipyretic properties.

properties; - 10 to 15 grains twice or three times in the 24 hours maybe ordered, and even this large dose maybe increased if the temperature does not yield. The quantity of quinine used by many German physicians is greatly in excess of this, but probably doses of from 10 or 15 to 20 or 25 grains, together with the assiduous application of cold, are sufficiently large to bring about the desired change in the febrile condition. It is of advantage to order besides some digitalis, 10 to 15 drops of the tincture or 2 drachms of the infusion every 3 or 4 hours has the effect not only of aiding the action of the quinine which it resembles in being an antipyretic, but also of giving vigour and tone to the heart whose muscular tissue is sorely tried by the degenerating influence of the abnormal temperature. - Warburg's Tincture seems to have a good effect in some cases of Quercular Fever, thus Dr. Playfair relates a case in the British Medical Journal of November 1877, which seemed -

seemed to improve under its use when all else, including cold baths and quinine had failed; - as however quinine forms the basis of the medicine, it is difficult to understand that the fact of its combination with a number of simple vegetable bitters could influence to any extent its action either one way or other: - more probably the poison had worked itself out and Warburg's Tincture happening to be administered just about the crisis of the attack, was credited with having effected a cure. -

The following cases, which have occurred within the writer's experience, are quoted as evidence of the good effect which may follow treatment conducted after the German method. -

NO. 2: (The case already referred to as having registered for 5 evenings a temperature of 106°) after giving birth to a healthy male child, born as the result of a normal but tedious first labour, was seized with a rigor on the evening of the 5th day, and on the morning of the 6th, her temperature -

temperature stood at 103° ; - the lochial discharge had ceased altogether; - the abdomen was slightly tender to touch; - the breasts flaccid; - the pulse rapid and small; - the face flushed, with great complaint of headache; - and altogether the symptoms infallibly indicated the commencement of a serious attack of Puerperal Fever. - That evening the temperature stood at 105° and for four succeeding nights it never registered less than 106° . - During these five days she was treated with cold applications to the head and 30 grain doses of Salicylate of Soda 4 times a day, but, as no marked improvement was visible, it was then resolved to resort to cold packs and quinine. - She was packed for an hour three times a day and given 15 grains of quinine night and morning, together with 10 minims of the tincture of digitalis and 5 grains of Carbonate of Ammonia every 2 hours: - at the end of 24 hours her temperature stood at $102\frac{1}{4}$ and after other 24 hours it was below 101° . - From this time her progress to convalescence was uninterrupted, though slower than could have been wished owing to an inevitable -

irritable disposition which interfered with the application of the iced cloths as efficiently as was desirable. —

5:00 P.M., on the fourth day after the birth of her fifth child, travelled by rail a distance of 80 miles and busied herself looking after the removal of furniture. — Three days after, — or the 7th day from delivery, — she shivered and became restless and feverish; on the 9th day, when I first saw her, her temperature stood at 105.6, while her pulse was in the state best described as thready. — Ten grains of quinine were ordered, to be repeated after two hours and the chest was packed with iced cloths for half an hour. — In the afternoon the temperature was but little over 104°: another dose of quinine was given and the iced cloths were re-applied for an hour. — At bedtime the cold was again applied for an hour and her temperature was reduced to between 101° and 102°, but, in spite of every effort at stimulation, her general condition proclaimed the greatest exhaustion. — Next morning —

morning, the thermometer did not indicate more than 101° , cold cloths for an hour with another 10 grain dose of quinine were administered and further reduced it to a little over 100° . - She expressed herself as feeling benefited, and in every way better, but the benefit came too late as she died early that evening (10th day from delivery) from sheer asthenia. - Probably had the case been seen earlier, when the febrile symptoms first manifested themselves, a better result might have been attained, but even as it was the temperature responded to the method of treatment adopted in a manner quite conclusive as to the improvement being effected.

Those are the only two puerperal cases which the writer has encountered within his short experience, but the evidence of many men of prominence might be called in to bear witness to the efficacy of the German method in the treatment of this disease; - besides it cannot be denied that good is derived in other diseases which manifest excessive -

excessive temperatures, for, were it not irrelevant to the subject-matter of this paper, several instances could be quoted where results of the most satisfactory nature have accrued from its practice in cases of Phthisis, Enteric Fever, and Pneumonia. -

There can be little doubt therefore that the temperature of Puerperal Fever will yield to this treatment equally with that of any other disease, and, as in its case the thermometer frequently registers very high figures, so high as to make certain the death of the patient from her own combustion, if that be not checked, - it follows that this method, which has been so successful in the hands of many, ought in no case to be overlooked and indeed should be had recourse to, - not after the temperature has reached Wunderlich's limit of 107.6 , and the patient's heart is beginning to fail and her strength to forsake her, - but early in the history of the disease when the treatment will have a fair chance of successfully combating the symptoms -

symptoms against which it is directed, and the patient a reasonable probability of having enough life left, - after the consuming fire is subdued, - to cope with her inevitable weakness and to build up her constitution, by the aid of appropriate tonics, and hygienic surroundings, to a state of vigour at least equal to that which it possessed before the occurrence of the dreaded disorder. —

Guthrie: Raubin. -
W.B. Glas. - W.B. Ed. -

Filmarnock, J
June 1882 J