

**Report on puerperal fever in answer to queries from the General Board of Health / by John C. Douglas.**

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*From the Third Volume of the  
Dublin Hospital Reports.*

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## REPORT

ON

## PUERPERAL FEVER,

IN ANSWER TO QUERIES

FROM THE

GENERAL BOARD OF HEALTH.

BY JOHN C. DOUGLAS, M. D.

LICENTIATE OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS, &c.

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TO THE EDITORS OF THE DUBLIN HOSPITAL REPORTS, &c.

GENTLEMEN,

EARLY in the year 1820, I received the following queries on the subject of puerperal fever, in the form of a circular letter, from the Secretary of the Board of Health, to which I returned the subjoined answers.

If the document should appear suitable to, and

worthy of a place in your next volume, I shall feel gratified by its insertion.

It is but too evident that it bears the character of a hasty composition, and would admit both of amplification and amendment; but I prefer submitting it to you in its original form, this being a literal copy of my communication to the Board of Health.

I remain,

Gentlemen,

Your obedient servant,

JOHN C. DOUGLAS.

6, *Dominick-street,*

1st. *Sept.* 1821.

## QUERIES.

*Query 1.* Have you known puerperal fever epidemic in your neighbourhood, and how often? State the years of its prevalence, and any facts illustrative of its mortality, specifying the places where it appeared?

Can you give any returns calculated to illustrate the period of its recurrence, and comparative severity?

*Answer.* Although I cannot positively say that I have met with puerperal fever, in a truly epidemical form, any where except in the Lying-in Hospital of this city; yet (during my residence in Dublin) few years have elapsed without my prescribing for some cases of that species of the disease, usually termed puerperal peritonitis. I here speak of practice unconnected with the Hospital. With respect to the Lying-in Hospital, I resided in it in the years 1809, -10, and 11, during which time I considered puerperal peritonitis to be there so decidedly endemic, that when any two successive months passed

without several patients being attacked with some form of this disease, it was deemed fortunate.

In the greater number of instances this sporadic puerperal fever (puerperal peritonitis) may, if judiciously treated, be subdued in the course of a few days, although its duration will occasionally be protracted to two weeks, or longer. I would suppose that the fatal cases of this casual fever, whether in hospital or private practice, scarcely rate so high as one in six; whereas in the truly epidemic fever hardly one-half of those absolutely attacked recover. I do not consider this species of the disease to be infectious.

The epidemical puerperal fever is a very aggravated modification of, if not a quite different disease from this just mentioned. It has occasionally appeared in the hospital from a very early period; but no regularity in its return has been observed. For an account of the epidemics (four in number) previous to the year 1792, I refer you to the fifth volume, second decade, of Duncan's Medical Commentaries, where there is to be had information on this subject. From that period, the fever did not here assume the epidemical character, until the year 1803, when it prevailed for a considerable period. In the winter of 1810-11, at which time I was the resident assistant, it again visited the hospital in a malignant form. And although there did not perish, during the height of the epidemic, so many as twelve patients, yet throughout the remainder of the year

1811, there were a greater number of insulated cases of fever than I considered the average of hospital disease. During 1812, likewise, although no longer officially connected with it, I had reason to know that the hospital continued rather sickly; and in the winter of 1812-13, the fever again assumed the truly epidemical character, and prevailed to an unprecedented extent. I had not an opportunity of witnessing the epidemic there in the winter of 1819-20, but I believe it exceeded in duration and fatality any that ever occurred within the British dominions.

*Query 2.* Have you known the name of puerperal fever applied to diseases differing in their nature; if so, in what does this difference consist?

*Answer.* It is customary to apply the term puerperal fever to diseases very considerably, although not entirely different; different both with respect to their exciting cause, and as to the type of their pyrexia, although always similar in their great leading characteristic,—abdominal inflammation and pain. I have for many years been of opinion, that there is not a greater difference in the type of that pyrexia, which accompanies a case of any purely inflammatory disease, as phrenitis, plueritis, &c. and from such down through every grade of fever to the plague itself, than there is between the type of the pyrexia, attending a casual\* case of puerperal fever, and of

\* By the term casual case of puerperal fever, I mean such

that attendant on the true puerperal epidemic ; and I feel myself justified in attributing the discrepancies of opinion, every where existing with regard to the nature, and the various and even opposite modes of treatment recommended by different authors for the cure of puerperal fever, to deficiency of nosological distinction.

*Query 3.* When the disease is epidemic, is it your opinion that it is always contagious? Have any facts come to your knowledge illustrative of its conveyance by accoucheurs or midwives?

*Answer.* When puerperal fever is epidemic, I consider it to be really contagious, but, for the most part, only to Lying-in women ; I do however believe that a woman, either pregnant or whilst nursing, or even a very delicate female, for several months after lying-in, although not nursing or pregnant, might be susceptible of this disease. I likewise think that any woman, whether married or single, at particular periods, might be liable to an attack of it, if much exposed to the influence of an hospital epidemic. Cases, occurring under these different circumstances, have happened within my own  
as occasionally occurs, both in hospital and private practice, when the disease is not epidemic, and which is excited by accidental causes, either during labour, or subsequently to delivery. In these cases, I presume the local inflammation more frequently to be primary, and the pyrexia to be consequential ; whereas, in the epidemical, I consider the pyrexia to be primary, and the local affection to be consequential.

knowledge. I am rather apprehensive that such contagion may be conveyed by persons much engaged in hospital duty, at a time when its atmosphere\* is heavily loaded with this peculiar effluvium. I have been informed of the circumstance of a pupil in midwifery having remarked, at the period of an epidemic, that several patients successively, upon whom he waited during labour, were seized with this disease, and died. Now it is more than possible that those women might have been infected from the contaminated atmosphere, or by some other widely operative cause; but the young gentleman became so apprehensive that he himself had been the medium of conveying the infection, that he resolved not to attend upon any other patient during the prevalence of the epidemic.

*Query 4.* Have you observed any connection between puerperal and common epidemic fever?

*Answer.* Although I am satisfied that puerperal fever, in all its variety of forms, may be generated in a lying-in Hospital, by local causes; I have no doubt of its being often excited by atmospherical influence, like common epidemic fever; and I am of opinion, that the same exciting influence, which would at another period produce common fever

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\* I have readily perceived, by the sense of smell, the effluvia of puerperal fever, when epidemic, on entering a ward of the hospital.



in an individual, might, at the time of lying-in, produce puerperal fever.

*Query 5.* When puerperal fever prevailed in any lying-in Hospital with which you are acquainted, did it at the same time, or did it previously or subsequently, prevail in your town or neighbourhood?

*Answer.* Whenever puerperal fever has been raging epidemically in the Lying-in Hospital, there was then usually more of this disease throughout the city than at other periods. Whether at these times it originated in the Hospital, and was thence diffused; or whether it co-existed in the city, at large, I cannot venture to say. But I consider it highly probable that a woman who had an attack of the epidemical puerperal-fever, and who had recovered; or even a hale woman who had resided during the week of her confinement in a contaminated ward, and whose constitution was capable of resisting the influence of contagion, might convey the disease to a more delicate \* lying-in female, who happened to reside in the same lodging-house or chamber, to which such person repaired on leaving the Hospital.

\* It will from thence be readily inferred, that I consider a state of debility, from whatever cause induced, as predisposing to this disease, particularly when epidemic. It matters little whether the debility be a consequence of previous disease, of poverty, of the operation of depressing passions, or of excessive hæmorrhage at the moment of delivery.

*Query 6.* Is puerperal fever more or less prevalent of late years than formerly?

*Answer.* As far as regards the last three epidemics which occurred in the Hospital, each succeeding one was more extensively formidable than the preceding. The overgrown size of the establishment, and the unrestricted admission of patients, may be assigned as chief causes of this evil.

Whether or not the disease, independently of hospital-practice, has been more frequent of late years than formerly, is a question which I cannot pretend to decide. I believe, however, it was more the custom in former years than of late, in some places, to denominate cases of puerperal fever,—“inflammation of bowels, or the bilious fever after lying in, to which such females are subject.” And I may venture with some confidence to state, that puerperal fever is more frequent in the Lying-in Hospital than among an equal number of lying-in women throughout the city, and likewise that it is more frequent in this city than in other parts of Ireland, occurring less and less frequently, in more than an equally decreasing ratio, with the decreasing size of cities and towns, until at length in villages and hamlets the disease seldom or never appears.

*Query 7th.* Under what circumstances of the community or of individuals have you observed it most frequently to prevail? Has puerperal fever been more prevalent in winter than in summer?

Is it probable that a temperature below that of the usual habitations of the poor, may act as an exciting cause ?

*Answer.* Although no class of Society be exempt from puerperal fever, yet it prevails more frequently among the lower, where the operative causes of all contagions are more active, than among the higher.

That puerperal fever prevails more in winter than in summer, I have no doubt. The circumstance of the hospital epidemics having occurred in winter, usually commencing about the month of November, would seem confirmatory of this. I am likewise satisfied that a temperature below that of the usual habitations of the poor, acts powerfully and frequently in inducing this disease; and it is by no means unusual to hear women, when suffering in its last stages, attribute their illness to this cause alone.

*Query 8.* Have you reason to think the disease is more prevalent in lying-in Hospitals, when those establishments are full, than at other periods ?

*Answer.* Until after the epidemic of the winter 1788-89 the number of beds in the Hospital never exceeded fifty; which I would conceive not more than sufficient for safely accommodating one thousand women; and yet nearly fifteen hundred were then annually received into them. In the

year 1808 there were but seventy-seven beds, a number sufficient for not more than fifteen hundred patients annually; and yet upwards of two thousand were then admitted. In the year 1810 we had only ninety-three beds, a number scarcely sufficient for the proper accommodation of two thousand patients, and yet three thousand were taken in within that year. The epidemic of the winter 1810 was perhaps thus partly generated. The number of beds was not, however increased, until the greater epidemic of the winter 1812-13 rendered the propriety of such a measure more evident; the adoption of any plan to restrict the ingress of patients had scarcely been ever contemplated.

From the foregoing and other considerations, I do firmly believe a crowded state of lying-in hospitals, and a hurried succession of patients, highly conducive to puerperal fever.

*Query 9th.* Have you known any lying-in hospital in which puerperal fever has seldom or never appeared? Describe the circumstances of such hospital, as to construction, number of patients, and discipline?

*Answer.* I am not particularly acquainted either with the structure or regulations of any lying-in hospital except the one of this city. I have however visited that of Edinburgh, as also the City of London Lying-in Hospital. The wards of this latter appeared to me by no means exposed to the

transmission of such currents of cold air as are usually admitted to pass through the Dublin Hospital. I made some remarks specifically on this head, and the physician assured me that a case of puerperal fever was there a rare occurrence.

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*Note.* If you have any measures to propose either preventive or remedial, not connected with the above queries, be so good as to state them fully.

### OBSERVATIONS.

As the greater number of women who die at the period of childbirth are cut off by puerperal fever, and as there is no disease in Europe, incident to woman, less obedient to the power of Medicine, too much attention cannot be paid to preventive measures.

Having hitherto presumed that this inquiry has been instituted in consequence of the liability to puerperal epidemics of the Lying-in Hospital of this city, I may here venture to remark, that I consider this establishment at present on quite too extensive a scale. Besides the objection of magnitude, the site and construction of this hospital are not the best adapted to healthiness; and these, with other evils, operate in more than an equally increasing ratio, with the increased size of the establishment. I am therefore of opinion that, in order to render

this magnificent building really subservient to the public good, the admission of patients should be so restricted as that their number shall not annually much exceed eighteen hundred. And I may here remark that this hospital never was, at any period, more healthy than during the seven years of the mastership of Doctor Evory, when this number was nearly the average of admission.

If such restriction were to be adopted, it might be necessary in consequence thereof, in these disastrous times, to provide some substitute of relief for the numerous lying-in poor of this city. And in case of any new establishment being erected, I would propose that it should consist not merely of hospital-accommodation, but that there should be connected therewith a system upon the plan of dispensaries. I consider that an establishment containing fifty beds might safely accommodate one thousand patients annually; and there might likewise, if necessary, be attended at their own homes, by instructed persons of the institution, from one to two thousand women. The entire expense of thus relieving upwards of two thousand women annually would not perhaps exceed fifteen hundred pounds.

Before I proceed to speak of remedial measures, I think it desirable to make some attempt at reconciling the present discrepancy of opinions with regard to the nature of puerperal fever, whether it be an inflammatory or putrid or nervous disease; and to account for the various and even opposite modes

of treatment recommended by different authors for its cure.

Indeed I have already said, in my answer to Query, No. 2, that I consider part of the hitherto ill success in the treatment of this disease attributable to deficiency of nosological distinction. And although I do not feel myself altogether competent to supply such deficiency, yet, until a more judicious arrangement be advanced, I propose to divide puerperal fever into three species, and to place them under the following heads, viz.

Synochal puerperal fever,  
Gastro-bilious puerperal fever, and  
Epidemical or contagious puerperal fever.

The cases that I rank under the first distinction are all those attended with pyrexia, similar to that of any other purely inflammatory disease. These are neither produced by contagion, nor are they themselves infectious. They are usually the result either of tedious or ill-managed labour, or of exposure to cold or other adventitious cause, after delivery.

This form of the disease is to be subdued by copious blood-letting, and other sedative and evacuant remedies, viz. antimonials, purgatives, enemata, fomentations, &c. The abstraction of blood, however, should here be considered our sheet-anchor :

this fluid must not only be early and copiously taken, but the operation should be repeated in proportion as the pulse or abdominal pain may afterwards indicate. The pulse, I may remark, is often in this, as in every variety of abdominal inflammation, deceitful. I therefore regard the degree of pain felt on pressure, as a preferable criterion, by which to regulate the abstraction of blood; and I cannot refrain from stating it to be my opinion, that the reason of this inestimable remedy having so frequently failed of the desired effect, and having been, by some condemned as useless or even injurious in this and other diseases, is not owing to genuine inaptitude in the remedy, but to the inefficient manner in which it is often applied by timid practitioners.

Within the second distinction I include those cases wherein the disease does not so rapidly assume, or at least manifest, a decidedly inflammatory character; not as in the former, commencing with a bounding, incompressible pulse; but, with a pulse frequent, hard, and concentrated, as is usually observed in synochus, or the common epidemic fever; neither are the symptoms of abdominal inflammation so early evolved. Yet such inflammation does exist, and progresses, when not checked, although more slowly, and more obscurely than in the former. The tongue is here loaded as in common bilious fever; whilst in the former it is usually white, or cleanly florid, with sometimes a glazed appearance. The treatment here should likewise commence with



blood-letting, but in more moderate quantity ; immediately after which ten or twelve grains of calomel should be administered, and followed in a few hours by an ounce of castor oil combined with some other briskly purgative medicine. These medicines, unless given in large doses, will produce but little effect, in this complaint ; and it is of paramount importance that the mucous surface of the intestinal canal should be effectually acted upon early in the disease in all cases, and more particularly whilst the morbid action of the peritoneal covering is under a kind of panic from the blood-letting, and before that inflammatory action can re-organize its broken force. Often, by such prompt treatment, will the disease be arrested *in limine* ; should it however advance, whether in increased or subdued violence, purgative medicines, varying in kind, must be daily administered, assisted by enemata, fomentations, topical blood-letting, &c.

This variety of puerperal fever may be induced by causes similar to those producing the first species, acting upon a constitution already debilitated, by deranged or torpid action of the digestive organs. Such a state, *to wit*, as would predispose the same individual to common epidemic fever ; if assailed, at any other period, by its exciting causes.

That form of the disease which I arrange under the third head, is the really contagious or epidemical puerperal fever, and although agreeing with the others in the great leading symptoms, inflam-

mation, pain, tumefaction and tension of the abdomen, yet differing from them in many material characters. The sensorium here is seldom in any degree disturbed; whereas in the others it is so, frequently, and even sometimes is excited to high delirium. The pulse here is usually from the moment of attack, soft, weak and yielding, and in quickness often exceeds 160, whereas in the first species it is full, bounding, and incompressible; and in the second, small, hard, and concentrated, and in both moderately quick. The eye, instead of being suffused with a reddish or yellow tint, as in the others, is here generally pellucid, with dilated pupil. The countenance, instead of being flushed as in the others, is here pale and shrunk, with an indescribable expression of anxiety; an expression altogether so peculiar, that the disease could, on many occasions, be pronounced or inferred from the countenance alone. The surface of the body, instead of being as in the others, dry and of high pyrexial heat, is here usually soft and clammy, and of heat not above the natural temperature, and not only is the skin cool with clammy exudation, but the muscles to the impression of the finger, feel soft and flaccid as if deprived of their *vis insita*, by the influence of the contagion. Indeed there is such prostration of muscular strength, and depression of vital principle, from the very onset of the attack, that I must suppose the contagion to act upon the human frame, probably through the medium of the nervous system, in a manner analogous to that of the conta-

gion of the plague ; and perhaps the African plague does not commit greater havoc among an equal number of infected persons than puerperal fever in this country ; nor is puerperal fever less quickly fatal than the plague itself.

Without pretending to detail any of the various modes of treatment, which I may have seen pursued either successfully or otherwise, I would here recommend the practitioner to commence by administering ten grains of calomel, combined with two grains of powdered opium, in the form of bolus, or of pills ; likewise, as early as possible, a briskly purgative enema. After the operation of the enema a number of leeches, from two to four dozen, according to circumstances, should be applied to the abdomen, and the abdomen should afterwards be stuped with flannel clothes, wrung from warm water ; and not only at this period, but frequently through the whole course of the disease, should such fomentations be used. Three or four hours having elapsed from the time of administering the calomel and opium, three drachms of pure oil of turpentine, with three drachms of syrup and six drachms of water, in the form of a draught, should be swallowed ; and, after the lapse of another hour, this is to be followed by an ounce of castor oil, or some other briskly purgative medicine. In some instances, the oil of turpentine and castor oil may be combined in one draught ; but I generally prefer giving the turpentine as here recommended. Some of these remedies, occasionally assisted by others suitable to the peculiarities of the

case, are to be repeated as circumstances may indicate ; but I would not be disposed to repeat the internal use of turpentine oftener than twice, in any case whatever. In several cases, particularly where the debility is very considerable, the blood-letting may be altogether omitted, and in these cases a flannel-cloth, sopped in oil of turpentine, should be applied to the abdomen, and allowed to remain on for the space of about fifteen minutes. This external application of turpentine, without either its internal use, or the aid of blood-letting, I have frequently experienced to be entirely efficacious in curing puerperal attacks ; and although I have hitherto omitted to speak of turpentine for the cure of the other varieties of this disease, yet I would not feel as if I were doing justice to the community, if I did not distinctly state that I consider it, *when judiciously administered*, more generally suitable, and more effectually remedial, than any other medicine yet proposed. I can safely aver I have seen women recover, apparently by its influence, from almost hopeless conditions ; *certainly* after every hope of recovery, under ordinary treatment, had been relinquished.

Although I do not feel it to be absolutely necessary here to offer any opinion as to the *modus operandi* of turpentine, in the cure of puerperal fever, yet I beg to add the following passage from the second number of the *Medico-Chirurgical Review*, page 180 :—“ The success which has attended the administration of oil of turpentine, in puerperal peritonitis, first recommended by Doctor Brennan of Dublin, is a proof of

the power of purgatives in this disease. The turpentine is not only a potent cathartic, but excites powerfully the whole mucous membrane of the intestines, and thus derives the morbid irritation from the peritoneal tunic to a secreting surface, where it is carried off by the increase of secretion itself." This appears a philosophical and satisfactory explanation of the *modus operandi* in those cases, wherein this medicine operates in a manner decidedly purgative. But I have known turpentine in several instances, even by its external application, relieve the most urgent symptoms of this formidable disease in the course of fifteen or twenty minutes, without producing any sensible evacuation. I am therefore induced to think, that in these instances at least, the beneficial effects result from the influence of its quickly diffusible power, probably acting upon the nervous system. It may not be quite irrelevant for me here to notice, that it is nearly seven years since I first promulgated an equally favourable account of this remedy, since which period I have frequently been assured of its very general utility in puerperal fever, by some practitioners; from others again I have heard of its total failure, and final condemnation. This is a wide difference on one of the most momentous medical subjects that ever was agitated; and I am inclined to think, that the causes of failure, and consequent condemnation, would admit of very easy solution.

At a period subsequent to the above I renewed the statement of my confidence in turpentine for

the cure of this disease ; and at that time I advanced an opinion that it might be found beneficial in many other febrile attacks, particularly in those attended with inflammation of any of the abdominal viscera ; and I now perceive, by the report of Doctors Hewson and Chapman, Physicians to the City Hospital in Philadelphia, dated 7th September last, that they have found it pre-eminently efficacious in the cure of a malignant fever then raging, in some respects resembling the former yellow fevers of that city. They state, “ in the management of the disease turpentine, on the whole, strikes us as having the strongest claims to attention. The cure of several of the least promising of our cases can alone be ascribed to it ; yet, like other remedies, it is not susceptible of an universal application.”

Now there appears to be a striking analogy between the present malignant fever in Philadelphia, and the puerperal epidemical fevers of the Dublin Lying-in Hospital. These Physicians state, that “ the character of the fever was of typhoid malignity, and that the stomach, by examinations *post mortem*, was found almost exclusively affected with a species of erysipelatous inflammation, in various gradations of violence.” The contagious puerperal fever of Dublin is, I venture to pronounce, neither more or less than a malignant fever of a typhoid character, accompanied with an erysipelatous inflammation of the peritoneal covering of the stomach, intestines, and other abdominal viscera.

It must, however, be distinctly understood, that I here allude to the type of the pyrexia of epidemic fevers in Lying-in Hospitals. For I am led to believe, when puerperal fever happens to be epidemic at large, in towns or districts, that its pyrexia is rather of the synochal character, and requires for its subjugation the bold and decisive depletions, recommended in Dr. Armstrong's invaluable treatise on this subject.