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ON THE CONTAGIOUS EFFECTS OF PUERPERAL FEVER ON THE MALE SUBJECT; OR, ON PERSONS NOT CHILDBEARING.

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As I have understood that the papers submitted to the consideration of this Society are expected to be rather the result of personal observation and experience, than compilations or extracts from authorities already before the medical public, I shall endeavour to abstain, as much as possible, from a reiteration of doctrines or opinions already settled in the minds of most of my hearers, and shall confine myself to circumstances which have been less frequently observed, or if they have been observed, have seldom been descanted on. As the subject involves the question of contagion and infection, before I proceed further, it may be desirable perhaps, that I should state my views of it, especially as far as it relates to febrile puerperal diseases.

There are three distinct classes of infectious diseases affecting the human subject, which differ in the degree and extent of their infectious power; and these are again capable of being subdivided into more minute species, some of which must necessarily run into each other, though the extremes of them are sufficiently distinct. These three classes embrace the most diffuse and incomprehensible poison of scarlatina, and the tangible permanent virus of inoculated diseases, and of those diseases capable of being produced by contact alone.

The first of these classes comprehends the exanthemata and plagues, and is purely epidemical; the second comprehends erysipelas, typhus, and other diseases of a more local character, being partly epidemical and partly endemical; and the third descends as low as diseases which are produced by inoculation or by actual contact only.

The first of these classes, epidemical diseases, has an extended signification; that is, it is generally prevalent amongst many at a time, and is also infectious in its nature. Most of the exanthemata are of this class, as small pox, scarlatina, measles, &c., which not only infect those who are in actual contact with their several poisons, but also infect the house or the neighbourhood, and, in many instances promulgate the disease, by the mere instrumentality of the atmosphere, to very considerable distances.

The infectious nature of these poisons, however, differs very considerably in degree; the poison of

some of them being of a much more tangible and substantial-kind than that of others, and capable of producing a disease of a similar nature in a sound subject, by the artificial introduction of its virus into the system; so far corresponding with diseases of a purely contagious nature. Epidemical diseases differ also in being either permanent poisons, to which human nature is, and perhaps, must be for ever, subject, pervading the whole world at the same time, being equally prevalent in warm and cold climates, in the eastern as in the western hemisphere, and may be looked upon as constant agents, by means of which the Almighty is pleased to keep in check the rapidly increasing tide of population; or they may be devastating and ravaging plagues sweeping the globe from east to west, or from country to country, until all those who are susceptible of their effects have been seized by them, or until their powers becoming weakened by diffusion, have gradually, perhaps rapidly, ceased. The causes of these plagues may be either terrestrial commotions or planetary influences. Hecker chiefly ascribes them to the former source, and relates many dreadful earthquakes, volcanic eruptions, inundations, vast destructions of animal, especially insect life, as preparations for the great plague which devastated Europe in the fourteenth century, and which for a time almost destroyed the bonds of social life.

In our own time we have had an instance of a plague of this description visiting us from the east, but happily the storm has passed over, and has left but few traces of its existence as a disease; and though the seed was sown in the western world it took no deep root, and after a rapid and too plentiful harvest, has again retired within its former, and it is to be hoped, more legitimate bounds.

I need not point out the remarkable difference between plagues of this description, in their rise, progress, and decline, and our own naturalized, and, (in an extended sense,) local fevers, as is seen in typhus, which in all its forms and varieties more or less pervades certain localities, and prevails at certain seasons of the year from one generation to another, in almost all European countries; and that they differ, but perhaps less remarkably, from the pestilences which linger constantly about the shores of the Levant, and amongst many eastern countries.

The next class of infectious diseases, of which erysipelas and typhus are illustrations, has a less diffuse power than that which belongs to the exanthemata and to pestilential fevers; has sometimes a local origin, and is thence propagated by personal or by atmospheric means; or is produced in situations favourable to its

propagation by some subject brought there who forms its nucleus.

Actual contact seems to be far less the means of producing this class of diseases than the atmosphere of a close room, or the breath, and the miasma from the foul discharge of the patient. Where, however, a depraved state of the blood, such as is often produced in aggravated cases of typhoid diseases, or a gangrenous sore is present, actual contact is, I believe, capable of transmitting a subtle poison, which will affect the susceptible by even intermediate contact, as is shown in those cases of puerperal fever related in the reports of the Dublin Lying-in Hospital, and in many other instances, both in public and private practice. With this class of diseases, the season of the year and atmospheric changes have much to do, and are seen to exercise a much more direct influence on their rise and progress than is the case in the former class of diseases arising from the more diffusible poisons.

The local origin of these diseases no one can, I think, doubt, who has had an opportunity of observing how frequently they will recur to one particular neighbourhood again and again, and how entirely they are removed when a better system of drainage or ventilation has been instituted, or when a long standing nuisance has been removed. The Sanitary Report of the Poor-Law Commissioners has, I think, thrown considerable light on this subject, and will also tend materially to the abatement of the local causes which produce diseases of this class. Would it were possible it could remove the poverty, improvidence, and attendant miseries, from which they too often arise.

The last class of genuine contagious diseases, such as require the actual and enduring application of their several poisons for their production, I shall not dwell upon, but come immediately to the subject of my paper, puerperal fever, and its consequences, a disease which, though less infectious through an atmospheric medium, is much more transmissible by actual, or by intermediate contact, than ordinary typhoid diseases, and may, therefore, be considered as forming the connecting link between contagion and infection.

This definition of the procreative powers of puerperal fever I consider to be a very important one, because, unless it be known to the practitioner, he may direct all his attention to the prevention of the supposed diffuse power of the poison, when he ought to limit his view of it to its more direct and contagious one. For instance, he may use all the means in his power to prevent it from spreading from case to case, and may overlook its origin from some specific and perhaps permanent cause. This was indeed my own case. For some weeks during the prevalence of the disease in my practice, I supposed it to spread from case to case, and directed all my precautions to its prevention on this supposition, until it was fairly proved to arise from a gangrenous erysipelatous disease, from which alone the cases were all severally produced by my intervention. The case was exactly the same under Mr. Reedal, Dr. Paley, and many others.

The diseases which are capable of producing puerperal fever, by means of actual or immediate contact with the subjects of them, (intermediate contact being almost the invariable means,) I consider to be typhoid, and more especially gangrenous, erysipelas; the pu-

lent matter of abscesses resulting from either of them, or even from typhoid scarlatina; the fomites of *post-mortem* cases of peritoneal inflammation, accompanied with depravity of the fluids; the gangrenous sores of typhus fever; the close approximation of malignant cases of typhus; in fact, the actual or intermediate application to the parturient female of any of those discharges which arise from a depraved and poisonous condition of the blood; and lastly, and but rarely, the disease arises from inward constitutional causes, of which a depraved state of the blood, and of the secretions of the patient, is one of the conditions.

True puerperal fever once set up by any of the means above stated, is again capable of imparting to any person not in the puerperal state, by actual contact or close approximation, the following diseases:—

1st. Inflammation of the peritoneum or other serous membranes, accompanied by low fever, both in the male and female subject.

2nd. Erysipelas; local, as in the hand or arm, from *post-mortem* inspections; or general, as in the face or person.

3rd. Typhus fever, with its various accompaniments, and in a variety of forms.

Having already, in another paper, endeavoured to show what are the causes of puerperal fever, I shall now confine myself to an attempt to prove the three positions above stated, viz., the diseases to which it gives rise. In this endeavour, I shall take the liberty of reciting the following cases which have occurred in my own practice, and support them by quotations from cases which have occurred in the practice of others; and as the proof of the first of these positions is the subject to which I chiefly intend to direct the attention of my audience, I trust they will not think me tedious if I relate, somewhat in detail, certain cases where puerperal fever has produced similar symptoms to its own, in the person of the husband, and more frequently still in the persons of the relatives, of females who have died of it. The cases also go far to prove that the event of the approach of death adds virulence to the poison, as the cases recorded have all happened where death has been the result.

FIRST PROPOSITION.

Inflammation of the Peritoneum and Pleura, produced by Puerperal Fever.

CASE I.—WIFE AND HUSBAND.

Ann Richard, aged 25, mother of one living child, had had eight miscarriages at the sixth or seventh month, was prematurely confined at two a.m., on Thursday, October 31st. She had two shaking fits during her labour, and the surgeon, Mr. Clarke, did not arrive until after the birth of the child; she had very considerable draining discharge during and after the labour. On Friday night she complained of pain and weight at the stomach, and in the right hypogastric region, increased by pressure, or on taking a deep breath. On Saturday morning she was seen by Mr. Stockil, of the Dispensary, and seven leeches were applied to the part, a dose of calomel and Dover's powder was given, and two grains of calomel every six hours. The leeches were re-applied on Sunday, the following morning.

These remedies relieved the pain considerably, and

she was considered to be doing well. On Sunday evening I saw her for the first time, and found her in the following state:—Pain and tenderness over the whole of the abdomen, but chiefly on the right side; great tympanitis; has had three stools since morning, all of them nearly involuntary; pulse 130, and weak; tongue coated, and somewhat dry in the middle; mind perfectly quiet; breathing extremely rapid and laborious. She was ordered one grain of calomel and one of opium every six hours; a large blister over the abdomen; and a desert spoonful of brandy in water every three hours. I did not see her again, but understood from Mr. Stockil that she was better on the following morning; she died however on that day, Monday, at five p.m., having been barely ill three days.

Though there had been no cases of puerperal fever in our town for some time, I considered this case had so many of its characters that it might prove infectious; I determined, therefore, to avoid all danger of communicating it toothers, by discontinuing my visits after the first. I therefore left her under the charge of Mr. Stockil, who attended her closely until her death. I did not, however, expect so soon to find my prognostications of the infectious nature of the disease verified as they were; for the husband began with a seizure exactly similar on the Tuesday morning, whilst the corpse was yet unburied. He had shivering, pain in the right hypogastric region; great tenderness on pressure; laborious and rapid breathing; a quick, soft, and somewhat feeble pulse, between 130 and 140; pain on inspiration. He was bled immediately in the arm, to about twelve ounces, blood not in the least buffy; subsequently, leeches were repeatedly applied to the side, followed by blisters. After the bowels were well moved, calomel and opium, at frequent intervals, with salines and digitalis; and when in intense pain, an opiate draught was given. Great dulness on percussion gradually came on, on the right side of the chest, and gradual infiltration into the lungs; the abdomen was slightly tympanitic; the breathing became more and more difficult; and he died on Monday, at five a.m., having been ill scarcely six days.

The effects of these cases spread no further, as every possible precaution was taken.

CASE II.—DAUGHTER AND MOTHER.

I need scarcely detail the case of Mrs. Boyd, of Cautley, No. 2 of my series of puerperal cases in 1841,* suffice it to say, that it was a rapid and malignant one.

The mother-in-law of Mrs. Boyd, an old woman of 70, or thereabouts, was seized a few days after her daughter's death with intense symptoms of a combination of peritoneal and pleuritic inflammation; rapid typhoid and sinking symptoms came on, and she died in three days. Had she been young enough, and the fever had occurred after child-birth, I should have had no hesitation in pronouncing it a malignant case of puerperal fever. The effects of this case spread still further, as will be hereafter related.

CASE III.—WIFE AND HUSBAND.

Another case, in which the husband was the victim, where the wife had previously died of puerperal fever, occurred in the practice of my friend, Mr. James Allen, of York. The man was seized immediately on the death of the wife with peritoneal inflammation,

with all the characteristics of puerperal fever, and died in three days. I have no details of the circumstances, as I am not aware that Mr. Allen took notes of it at the time; but I have often heard him say how much he was struck with the similarity of the symptoms in the male to those of true puerperal fever; indeed he has no doubt of the identity of the disease in each case.

CASE IV.—WOMAN AND FRIEND.

Dr. Paley, of Ripon, in a history of cases of puerperal fever, arising from one of gangrenous erysipelas of the scrotum, relates the case of a married lady, aged 54, who had been in close attendance on one of the fatal cases, who was seized with violent pain in the abdomen, and died, under similar symptoms to the puerperal cases, in twenty-six hours after the seizure.

The circumstance of the seizure of the husband or relatives with the symptoms of puerperal fever, at or after the death of the woman, cannot necessarily be of very frequent occurrence; but I have no doubt when the secrets of the chambers of the dead from this disease are more fully known, that many more melancholy histories, of a similar nature will be brought to light.*

SECOND PROPOSITION.

The production of Erysipelas, local or general, in the person of the Attendant on Cases of Puerperal Fever.

CASE I.—A few years ago a medical friend of mine had a number of cases of fever, and amongst them one had a very large abscess in the neck, which required his daily attendance. One evening, when engaged in this duty, he was fetched from thence to attend a lady in her accouchement; he wished to go home before he saw her, but her husband would not allow it; he was consequently prevented from changing his clothes, and ridding himself of miasma. He however excused himself from wearing his coat, under the plea of heat, and was obliged to render the lady immediate assistance. The labour terminated favourably, and the patient was very well for the first twenty-four hours, but after that time she was seized with symptoms of regular puerperal peritonitis, of the lowest character. In spite of all the assistance that he, (a man of considerable eminence,) and another first-rate practitioner in that department, could afford her, she died on the seventh day from her accouchement.

This lady's maid, who attended her most affectionately through this dreadful state, happened to cut her finger, which she brought into use in sponging her mistress. The day before her mistress died she was attacked with violent shivering, &c., &c.; the finger inflamed; the absorbents connected with the wound enlarged; she soon became delirious; and in spite of all he could do for her, she died on the fifth day from the first shivering fit.

CASE II.—A Mrs. Manby, who was in close attendance on a woman of the name of Briggs, who died of puerperal fever under my care, (No. 3 of my series,) was seized with erysipelas of the whole of the cellular texture of the right side of the chest, and with severe pleuritis. She recovered with great difficulty.

CASE III.—Miss Scothorpe, the sister of Mrs. Bullas, (No. 6 of my series,) who died of puerperal fever, was seized with phlegmonoid erysipelas of the mamma, and

* Provincial Medical Journal, December 2, 1843, p. 168.

* See Nunneley on Erysipelas.

was in a very dangerous state for some time, but recovered after the formation of an immense abscess.

CASE IV.—My friend, Mr. Allen, on inspecting a *post-mortem* case of puerperal fever, wounded his hand, and had a severe attack of pustular erysipelas, extending up the arm, which endangered his life.

CASE V.—His assistant, in passing a catheter for a female in purperal fever absorbed some of the poison, and had a severe attack of erysipelas of the hand and arm.

CASE VI.—Dr. C—, an American physician, in opening the body of a puerperal fever female, wounded his hand, and had an attack of erysipelas, with accompanying illness.

CASE VII.—The nurse who laid out the body of No. 3 of Dr. C's puerperal fever cases, was taken on the evening of the same day with erysipelas and sore throat, and died in ten days.

CASE VIII.—Mr. Gregory Smith passed his hand into the uterus of a woman, in the dissecting room of the Windmill Street School, who had died of puerperal fever; he was seized with severe pain afterwards, and his hand was covered with erysipelatous inflammation and pustules.

I would not willingly enter into tedious details, and shall therefore consider that I have said enough already, to satisfy the unbelieving of the effects of puerperal fever in producing erysipelas; but, did I require further evidence, I would adduce the immense number of cases of erysipelas of the navel and genitals, occurring in the infants of those dying of the disease, a fact which goes far to prove the power of puerperal fever to reproduce the disease from which it had been previously propagated, (erysipelas,) and also in generating a poison which, according to the condition of the part affected, and other circumstances, may be either erysipelas of the hand, of the face or throat, or of the navel and genitals, as the case may be; or it may be one bearing a most close resemblance to puerperal fever itself, both in its seat, symptoms, and fatality.*

THIRD PROPOSITION.

Typhus Fever, with its various Accompaniments, produced by Puerperal Fever.

To complete my proposition of its production of a disease simulating itself, of erysipelas, and of typhus, I will now relate some cases of ordinary typhus which I have seen arising from puerperal fever.

CASE I.—Mrs. Ridge, the sister of Mrs. Downes, (No. 1 of my cases,) was seized immediately after the death of the latter with typhus fever, and was in great danger.

CASE II.—Mrs. Lockwood, who attended the case No. 2 of my series, and her mother, (both fatal,) was immediately attacked with typhus, but recovered. She was ill at her own home. Her son was also seized with typhus, and had a tedious recovery. There were no other cases of typhus in the village at the time.

CASE III.—The nurse of Mrs. Manby, the person who suffered so severely from erysipelas, after attending No. 3 of my series, was seized with typhus, and died.

Here we have a complete chain of disease and death

* See Nunneley on Erysipelas, article Puerperal Fever, a book which, though not professedly written on the latter subject, contains more information respecting its true nature, causes, and consequences, than any I have met with.

in four persons in one month, fairly traceable from one to the other, viz.:—Mrs. Richardson, the person from whom I suppose all my cases arose, had gangrenous erysipelas. I conveyed the poison from her to Mrs. Briggs, No. 3, as above stated; she died. Mrs. Manby, Mrs. Briggs's friend and neighbour, was immediately seized with erysipelas and pleuritis, but recovered. Mrs. Manby's nurse was a few days afterwards obliged to be sent home from an attack of typhus fever, under which she died, long before Mrs. Manby had recovered from her attack of erysipelas. Hence, there seems to be the strongest reason to believe that a poison was generated by the gangrenous erysipelas, which was capable of passing through the bodies of others, and of producing this or that form of disease, to which unknown conditions of their respective systems rendered them liable,—sometimes general or constitutional disease, and sometimes local disease, with more or less of constitutional symptoms, [guided in some degree by the mode of its production, whether of actual contact, of intermediate contact, or of close approximation.

Mr. Nunneley, of Leeds, I believe, considers the diseases of puerperal fever and erysipelas to be identical; and so far as they seem to arise from the same animal poison, I think a review of the cases above related will corroborate his opinion. But whether we can consider diseases so dissimilar as they appear to be, as differing from each other only from the texture of the body affected by them, I leave others to judge, for though the poison may be the same, the varieties of the disease produced by the condition of the party affected by it, by the constitution of the patient, by the strength and severity of the poison, and by many other circumstances, may be almost as great as in all those diseases, which arise from such a source as checked perspiration, derangement of the stomach, or from any other single cause, which may produce either cholera, inflammation, or diseases of a directly opposite nature, according to the predisposition of the party affected.

The certain knowledge, however, of the capability of one or other of these diseases affecting the persons of the nurses or attendants, may lead to many beneficial prophylactic means; for not only may puerperal fever be prevented, by a knowledge of its origin, from erysipelas, or from typhus, but typhus and erysipelas may also be in some measure prevented from arising in the persons of those who are in attendance on fatal puerperal cases, by the various precautions which a knowledge of the danger would inculcate.

For my own part, if, on the one hand, by bringing forward the subject in another shape, and reviving the sleeping recollections of any of my auditors of the means they have in their power of preventing this horrible fever; and on the other, if I suggest to the mind of any one of them who may hereafter chance to be unfortunately haunted by it, a single hint that may be instrumental in arousing their precaution in favour of parties surrounding the sick, I shall be amply rewarded for the small pains I have been at, and shall feel some consolation in the idea that I have at least done something to repay the debt to society which my past misfortunes have entailed upon me,—and above all to that God, who delights to see men endeavour to do good to each other.