

The Signs of Systemic Infection in Puerperal Fever.

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In the previous lectures we have seen what happens when the microbes that are the cause of puerperal septic disease reach the wound which they infect. We have now to look at the effect which this has on the patient.

We saw that, while part of the fighting between the germs and the patient's own leucocytes was of a hand to hand character, yet for the most part the warfare was waged by means of the formation of toxins by the microbes and the attempt on the part of the leucocytes to neutralise these by means of antitoxins.

Now, the mere fact of the patient having an illness (of more than a few hours' duration) at all is a sign that the leucocytes are not sufficiently strong or numerous to crush the invaders straight away. The germs, therefore, do manage to manufacture some toxin that is not neutralised by antitoxin. These poisons are absorbed into the blood vessels, and are taken to every part of the body, so the patient suffers from certain general symptoms which are not confined to the affected wound, and, indeed, do not give us in themselves any information about the wound. We have to deal with the effect of the toxins themselves, and it does not matter for our present purpose where the toxin factory is situated.

Sometimes, as we have seen, not only toxins but microbes also find their way into the blood stream, but beyond the fact that the general symptoms are usually more severe when microbes are circulating in addition to toxins, we cannot tell from a bedside examination whether the former are present or not. To clear up this point, we carefully disinfect the skin at the bend of the elbow, and plunge the needle of an aseptic syringe—an all-metal serum syringe is perhaps the best—into a prominent vein and withdraw about half an ounce of blood. This is sown on the surface of certain culture media, and the tubes are examined for microbes after they have been incubated at blood heat for the requisite time. Strictly speaking, a patient who has circulating toxins only is said to be suffering from sapræmia, but if organisms are there (in the blood stream) as well, she is said to have septicæmia. The distinction is a good one from the purely scientific aspect, but

clinically one more often uses the word septicæmia in a wider sense to include all patients who have general symptoms.

In describing these signs, we will premise that we do not know (and cannot tell from the signs themselves) whether the condition is one of sapræmia or septicæmia. The reason why the distinction is not a good one altogether is that any patient suffering from sapræmia may become septicæmic at any moment.

The first of the signs is a rise of temperature, which may be of almost any type. Thus, it is not uncommon for a mild case of puerperal fever to begin with a most alarming rigor, with a temperature of 105 degrees or more, while another patient who ultimately does badly may have only a slight pyrexia, 100 degrees or so. It is much better, in fact, that there should be marked symptoms at the onset, for medical advice is then sought at a stage when it is usually possible to cure the patient. The height of the temperature does not at any time give us information of very much value, for one frequently sees precisely similar temperature charts from two patients, one of whom has a sloughing uterus with much foul discharge, and the other but slight local signs while the blood is full of bacteria. With the pyrexia there may be rigors, but even these, while they show that the patient is seriously ill, do not tell us anything certain about the nature of the illness. The chief value of the rise of temperature for which no other cause can be found) is to show that the patient has puerperal sepsis of some kind, and this, in fact, forms the basis of one of the rules of the Central Midwives' Board that a medical man shall be sent for if the patient has either a rigor or a rise of temperature to 100.4 F., with quickening of the pulse, for more than 24 hours.

Incidentally, neglect of this rule is fairly frequent, and in some districts is punished severely. It is a pity, however, that monthly nurses cannot be brought under the supervision of the sanitary authorities also, for in many points they are greater sinners than the much-abused midwives.

Another sign of systemic infection is a quickening of the pulse, and this often gives more valuable information than the height of the temperature. However well a patient appears to be, and says she is, if the pulse remains over 120 (apart from the quickening caused by disease of the heart or kidneys) the outlook is unfavourable, and conversely, a patient, even if she is in a state of raving delirium, and is refusing her food, usually recovers if the pulse is fairly slow.

Then we have prostration, so that many

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