CASE OF PUERPERAL SEPTICAEMIA TREATED WITH ANTISTREPTOCOCCUS SERUM: RECOVERY.

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THE use of antistreptococcus serum in cases of streptococcus infection has been advocated for a number of years, and its advantage in case of pure streptococcus intoxication is now generally admitted. The results, however, of its use in severe cases of so-called puerperal septicaemia, where there is most probably a mixed infection, have not been hitherto such as to enhance much its reputation in this direction, and its value as a therapeutic agent in these is doubted.

The following case of puerperal septicaemia which came under my care was treated successfully by its use, and it appears to me, though the evidence of one case is apt to be misleading, that in the case in question it materially helped to avert a fatal issue.

CASE.

On February 14th, Mrs. B., primipara, aged 25 years, and previously a healthy woman, was delivered of a dead, full-time child, which weighed over 12 lb. The child was only recently dead. There was nothing abnormal about the labour, except that the second stage was prolonged owing probably to the large size of the child, and that there was slight post-partum haemorrhage, due, probably, to the prolongation of the second stage already referred to. The puerperium was uneventful till the ninth day, when the lochia became foul, and the same evening patient had a sharp rigor. A vaginal, followed by an intrauterine, douche of creolin solution was given the same night. Her temperature before the douche was 105° F., and her pulse 150; one hour after the douche the temperature was 102° and the pulse 135. The patient was put on a strict milk diet and an aperient administered. Next morning the condition was as follows. She had passed a restless, sleepless night, though without any rigor, pulse 152, small and thready, temperature 104°, lochia stopped, respirations shallow and rapid, while her appearance was typically that of a septic condition; the bowels had acted. The intrauterine douche was repeated, the patient sponged with tepid water, and gr. x quin. sulph. were administered. The patient took Oij milk during the night. In the afternoon the condition was practically unchanged, save that the temperature was 102°. In the evening, however, it rose to 105°, when the douche was repeated, and 10 c.cm. antistreptococcus serum injected in the left umbilical region. Next morning the condition was improved, patient had passed a good night, and said she felt better; temperature 100°, pulse 108. In the afternoon her temperature rose to 102°, and the injection of 5 c.cm. serum was deemed advisable, which was followed by 10 c.cm. more in the evening. Brandy 3ss every two hours was ordered. After this there was a marked improvement, though, owing to slight rises of temperature, 5 c.cm. serum were injected daily for a week; these rises, however, were never above 101°, and after the week the temperature never rose above 100°, though it did not touch normal till the end of the third week after the seizure. Brandy was kept on in diminishing doses for a fortnight, suitable nourishment administered, and during the first fortnight a mixture of strychnine, strophanthus, and a diaphoretic. After the third week convalescence, if slow, was uneventful, save for one or two incidents to be noted below.

The improvement in this case dated undoubtedly from the first dose of antistreptococcus serum, which caused a large drop in temperature, with a corresponding improvement in the general condition. Each injection of serum, indeed, was followed by a lowered temperature, though, as was observed above, repeated injections were required to combat the septic process.

In each case the injections were administered (under the most strict antiseptic precautions) in the abdominal wall with no apparent local effect save a little tenderness, till about a week after they were discontinued, when there appeared almost simultaneously on both sides a small patch of red, tender, and almost erysipelatous-looking skin, accompanied at the same time by a small abscess formation over the outer side of the right elbow-joint. These were all fomented, and the latter resolved without any trouble, but the two former were opened, and discharged about 3j each of thin pus, the skin over each breaking down and leaving an ulcer which was extremely sluggish and intractable. Both these ulcers took over three months to heal, and, I believe, considerably retarded the progress of convalescence.

That metastatic abscesses have followed the injection of antistreptococcus serum has been observed before, but I should be interested to hear if any local suppuration, such as I have noted, has ever manifested itself. If so, it cannot, I think, be hastily put down to a fault in antiseptics during the process of injecting, but rather to some infection from the serum *per se*, with which the low vitality of the body, always

necessarily in such cases enfeebled by the course of the disease, is unable to cope.

The serum should be perfectly fresh, and should be administered as soon as it is ascertained that the case is septic. Antiseptic intrauterine douches may be useful, but should not be relied on too long in the hope that they may be sufficient, as a delay of hours even in using the serum may make all the difference towards averting a fatal result, and the admitted high mortality of the disease warrants drastic measures being used in the very early stages.

CASE OF PUERPERAL SEPTICAEMIA TREATED WITH ANTISTREPTOCOCCUS SERUM.

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THE following case illustrates the value of antistreptococcus serum in the treatment of severe puerperal septicaemia.

CASE.—Mrs. F., aged 31, a multipara, was confined, thirty miles away, by a midwife on October 19th, 1901. The following day the patient complained of headache with flushes and frequent chills, together with pain throughout the body. The condition was put down to "milk fever." Her illness speedily increasing, I was sent for on October 22nd, or on the third day after delivery. On my arrival at 6 p.m. I was struck by the appearance of the patient, and at once ascertained that frequent digital examinations had been made during labour. One could see at once what was wrong; she had fever, but not milk fever. She was restless and muttering to herself, having a pulse of 110, a temperature of 104.6°, and a respiration-rate of 22. All the muscles in her body were twitching, more especially the facial. The urine was scanty and high-coloured; the lochia scanty, but in no way offensive; thirst was great. There had been two copious watery, dark, and most offensive motions. Insomnia was complete. The tongue was covered with a thick yellow fur. There was no milk in the breasts. There was general distension of the abdomen, which was tympanitic throughout. The area over the uterus and that to its right was somewhat tender to the touch. Per vaginam the roof to the right of the cervix was somewhat thickened and tender to the touch, but there was nothing else to note. The poison having already passed the uterus and become general and of a very severe type, I purposely withheld a treatment which under different circumstances I would have at once adopted—curettage. I therefore relied upon continuous uterine irrigation with 1 in 500 carbolic lotion, so highly recommended by Pozzi in preference to intermittent irrigation with mercury perchloride solution, and by so doing avoid the risk of a further charge of infection through vessels opened up by curettage. I prescribed calomel gr. viij. with opium 12 gr. and quinine sulph. 9j, and I put a trained nurse in charge.

October 23rd. Morning temperature, 102.2°; evening temperature, 105°. Seven profuse watery motions.

October 24th. Morning temperature, 103°; evening temperature, 100.8°. Increasing abdominal distention. Per vaginam as before; diarrhoea continuing; general condition worse.

October 25th. Morning temperature, 102.8°; evening temperature, 100.8°; pulse, 170; respirations had increased from 22 to 36. Five profuse watery motions; with delirium; several rigors.

October 26th. Morning temperature, 103.2°. Patches of pneumonia at base of both lungs; abdominal distension increasing. Starch and opium injections used to keep diarrhoea under control. Motions and urine passed involuntarily. All treatment appearing useless and it being plain that the patient could not last many days, I decided to give antistreptococcus serum (Pasteur Institute), and gave a first injection of 10 c.cm. Evening temperature, 105.6°; pulse, 150; respirations, 42. There was fair sleep; the skin became moist and there was a general calming down of the patient. Seven profuse watery motions.

October 27th. Morning temperature, 104.4°; pulse, 140. Urine and six profuse watery motions passed involuntarily as before. Herpes on the lips; patient unaware of her surroundings; tongue brown and cracked, gums bleeding, and covered throughout their whole extent with sordes; the lips were also cracked and bleeding, and the heart was failing fast; 10 c.cm. antistreptococcus serum were injected. Evening temperature, 103.6°; pulse, 118.

October 28th. Morning temperature, 104.2°; pulse, 130; evening temperature, 105.6°; pulse, 145. Urine and seven profuse watery motions passed involuntarily; abdominal distension increasing; had fair sleep; skin moist; condition generally worse.

October 29th. All day temperature stood at 104.4°; pulse, 150; respirations, 42. Every joint in the body swollen, even the fingers; abdominal distension increasing; no signs of dullness; vaginal examination suggestive of pus high up but no sense of fluctuation whatever. Four watery motions, not so watery or copious as before, but passed involuntarily. Gave a mixture of tr. cinchon. co. and ammon. carb. in full doses every four hours, and one-sixtieth strychnine hypodermically every four hours, as patient was going from bad to worse.

October 30th. Profuse sweating. Morning temperature, 103.6°; pulse, 140; evening temperature, 104°; pulse, 160; respirations, 42. No change in lungs; seven motions passed involuntarily.

October 31st. Morning temperature, 102.4°; pulse, 150; 10 c.cm. antistreptococcus serum injected; evening temperature, 104.6°; pulse, 146; respirations, 60. Three watery involuntary motions; condition of