Cæsarean Section in Infected Cases of Obstructed Labour.

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THE procedure to be adopted when dealing with a case of obstructed labour actually varies with the condition present, and the antecedent events of the labour very often profoundly modify the situation. The so-called "septic" or "suspect" case is one which is regarded as perhaps the most difficult in which to come to a decision as to the proper course to adopt. If the child is alive when the management is undertaken, that fact alone should have due consideration paid to it.

An immediate Cæsarean section suggests itself at once as the simplest and quickest method of delivery, but authorities are much at variance as to the justification for such a course of action.

In Dr. Amand Routh's report, read at St. Petersburg, he found that a maternal mortality of 34.7 per cent. attended the operation when performed in cases in which infection might be presumed to have occurred before surgical methods were adopted for delivery.

This very high mortality has influenced obstetric opinion in this connection, and many authorities hold that Cæsarean section is either contra-indicated entirely or should be followed by some mutilating operation in order to minimize the risk of a fatal termination through sepsis.

I think that such a view is unnecessarily pessimistic, and that the danger is overrated, and put forward my own experience, which, though small, seems to me to justify the opinion I hold. I believe that, if the child is alive, the facts that the membranes have been long ruptured, that repeated examinations have been made, and that efforts at delivery have failed, should not be assumed to veto Cæsarean section as a means of delivery; and that by proper technique the operation can be completed with every chance of success. I also believe that the classical operation is the best and safest one to adopt in these circumstances.

The first case which helped me to rid myself of the unreasoning fear of the "septic" case was one which occurred in the hospital practice of Dr. Amand Routh when I was Registrar and Tutor at Charing Cross Hospital. The patient on admission presented the most unfavourable condition. She had been in labour 48 hours,

the membranes having ruptured early. There had been repeated attempts to deliver the child with forceps, and the woman's general condition was one of marked exhaustion. Her temperature was 101°F., and her pulse-rate was over 120. The child, however, was alive, and Dr. Routh decided to do a Cæsarean section. The convalescence was stormy, but both mother and child did well, and the patient has subsequently had other children.

This case made a great impression upon me, and the feeling that the "septic Cæsarean" is less dangerous than many of my colleagues believe has become deeper with increasing experience.

When dealing with such cases I always use a modified technique designed in order to minimize the risk of infection. Briefly, my procedure is as follows:—

The vulva and vaginal canal are first thoroughly swabbed out with antiseptic fluid. I have used iodine, perchloride of mercury, flavine and Milton; but the one I now rely upon is the "blue paint," first prepared at the Middlesex Hospital Laboratories. This swabbing is very thorough, and is done under anæsthesia. The abdomen is next painted with the same fluid. An incision is then made of sufficient length to permit of the easy eventration of the uterus. When this has been done a large towel is laid behind the organ and drawn forward around the cervix, so as to prevent, as far as possible, infection of the peritoneal cavity with the liquor amnii. After the child is delivered and the placenta and membranes have been removed, the whole of the interior of the uterus and the edges of the uterine wound are swabbed with the blue paint and the wound closed according to the classical method. Saline solution is now poured over the uterus, the towel carefully removed by the assistant, and the uterus returned to the abdomen; the abdominal wound is closed in layers without drainage.

With regard to the suture material used, I have in all cases employed linen thread or silk, but I feel that an even safer material would be silkworm gut, and propose to use it in future cases. An unabsorbable ligature is in my view essential in these cases.

It will be seen that many of the cases developed symptoms and signs of septic absorption after the operation, but the final result in all has been good; a considerable proportion show healing of the wound by first intention.

The following are the notes of the nine cases which I have done since March 1919. They can all be regarded as "suspect," and I think that the results justify the attitude which I have adopted with regard to the treatment of these cases:—

Case I. M. J. (Queen Charlotte's Hosp.), July 24, 1919. Primigravida, æt. 28. Admitted to hospital at the request of her doctor as a case of

obstructed labour. She had been in labour for two days and the membranes had ruptured 30 hours before admission. Frequent examinations had been made, but no attempt to deliver had been undertaken. The temperature was 98° F. and the pulse-rate 124. The uterus was very irritable, tightly moulded round the child and did not seem to relax to any extent. Cæsarean section was undertaken with antiseptic precautions, and a live child delivered which weighed 8 lbs. 8 ozs. The puerperium was entirely uneventful and the wound healed by first intention.

Case II. 30/19. A. B. Seen on 15th Nov., 1919, with the history that the membranes had ruptured on the morning of the 14th and that labour pains had been present for only four hours and had then ceased completely.

The child presented in the I.O.A. position, and the cervix admitted two fingers.

I advised quinine gr. v. and $\frac{1}{4}$ cc. of pituitrin four hours later, the latter to be repeated six-hourly.

On Nov. 19th meconium had been coming away for some hours and the foetal heart-rate had, during the two hours before I saw the patient, dropped from 140 to 100. Pains had been infrequent and the cervix was about the same size as when first examined. The vaginal discharge was slightly offensive. As the parents were both desirous of a living child I advised an immediate Cæsarean. This was done and the baby delivered slightly asphyxiated. It soon recovered. The puerperium was uneventful except for the occurrence of some offensive vaginal discharge on the fourth and fifth days. The subsequent history of this patient is not without interest, as on March 27th of this year I delivered her of a full time child after a perfectly normal labour.

Case III. H. H. (Queen Charlotte's Hospital), Ap. 27, 1920. i-gravida, aged 41, married 19 years.

The labour began with rupture of the membranes, and after 96 hours very slow progress had been made. The cervix was dilated to about the size of one shilling, when the foetal heart became irregular. The liquor amnii was slightly offensive and stained with meconium. The mother's temperature was 100° F. and her pulse-rate 110. As she was very anxious to have a living child I did a Cæsarean section after having explained the position to her, treating the case as "suspect."

The baby weighed 9 lbs. 2 ozs., and cried after a few moments' resuscitation. The puerperium was complicated by a temperature of 99° F., which lasted for five days. The wound healed *per primam*. The baby developed a slight broncho-pneumonia but recovered.

On discharge the pelvic condition appeared entirely normal.

Case IV. M. H. (Queen Charlotte's Hospital), Aug. 8, 1920. ii-gravida, aged 44. She was admitted as a case of obstructed labour at the request of her doctor, who stated that she had been in labour 16 hours and that he had twice attempted to deliver with forceps after manually rotating a posterior position of the vertex. On admission the patient was very exhausted, temperature 97° F. and pulse-rate 120. Examination showed the head high above the brim and fixed, the cervix three-quarters dilated, deeply torn posteriorly, and the vagina lacerated.

A Cæsarean section was done with the technique as described above, and a live baby delivered.

Subsequently the temperature oscillated about 99° F. for a fortnight, but the wound healed by first intention, and the pelvis appeared normal on examination at her discharge from hospital. The baby did well.

Case V. M. L. (Islington Maternity Home), Sept. 19, 1920. i-gravida, æt. 37. This patient had been in labour 56 hours when the operation was done, and two medical men had each endeavoured twice to deliver with forceps. The head was high above the pelvic brim and fixed, while the pains were very strong and occurring at intervals of three minutes. The vagina was much torn. The child was delivered asphyxiated but soon revived. It weighed 8 lbs.

The puerperium was febrile, the temperature being over 100° F. from the 6th to the 12th day, while the lochia were very offensive on the 9th and 10th days.

The wound healed by first intention, and uterus and adnexa appeared to be normal on her discharge from the Home.

Case VI. C. D. aged 24. i-gravida. Oct. 12, 1920. This patient was seen in consultation as a case of obstructed labour in which the membranes had been ruptured for 40 hours and two attempts at delivery with forceps had been made. The pelvis was generally contracted and the head was still above the pelvic brim in spite of many hours in labour. The patient was very anxious for a live baby, and after explanation of the circumstances to her and her husband a Cæsarean section was done with the usual precautions.

The child weighed 9 lbs. 10 ozs., and was rather deeply asphyxiated, but soon recovered. The puerperium was quite uneventful, and subsequent examination revealed no abnormality.

Case VII. F. B. (Queen Charlotte's Hospital), May 2, 1921. i-gravida, æt. 27. Labour began with rupture of the membranes on April 26th and the patient was admitted 96 hours later with fair first stage pains. On examination the head was found high and fixed and the cervix was dilated to the size of a florin. It was hoped that the head would mould sufficiently to come through the pelvic brim, but 34 hours later five applications of forceps were made without success. A Cæsarean section was done, the case being regarded as suspect, and a baby weighing 8 lbs. 12 ozs. was delivered alive and did well.

The puerperium was febrile from the 2nd to the 18th day, but there were no alarming constitutional symptoms. The wound healed at once and the pelvic condition on discharge was noted to be normal.

At the time of operation this patient's temperature was 101° F. and her pulse-rate 120.

Case VIII. M. G. (Queen Charlotte's Hospital), May 17, 1921. iii-gravida, æt. 39. The labour began on May 16, at 3 a.m., with the rupture of the membranes, and at 5 a.m. on May 17th, after repeated examinations, ineffectual attempts at delivery with forceps were made. The patient was sent to hospital, and on examination the vagina and cervix were found considerably torn, and the head, the major portion of which was still above

the brim, showed an enormous *caput succedaneum*. The temperature was 100.4° F. and the pulse-rate 96.

Cæsarean section was done 30 hours after rupture of the membranes and a live baby was delivered. This baby presented a generalized œdema and though it weighed 9 lbs. 6 ozs. it gradually lost weight and died on the 10th day.

The puerperium was febrile from the 8th to the 13th day during which time the patient had a thrombosis of the superficial veins of the left leg. The wound healed perfectly and the pelvic viscera were apparently normal on discharge.

Case IX. C. B. (Queen Charlotte's Hospital), July 13, 1921. This patient was admitted with a history that the membranes had been ruptured for 10 hours and that two separate attempts had been made to deliver with forceps. Her temperature was 100° F. and her pulse-rate 120.

Examination showed the head to be above the brim and fixed while the uterus was very closely applied to the baby. By vaginal examination it was found that the cervix was four-fifths dilated and torn. Three more trials were made with forceps to effect delivery, and I saw the case 12 hours after admission. The baby was still alive so I did a Cæsarean section with the technique employed in septic cases. The baby weighed 9 lbs. 2 ozs. and did well.

The puerperium was complicated by pyrexia from the 5th to the 11th day with a rigor at its onset and very offensive lochia throughout. A free discharge of pus from the lower end of the abdominal wound occurred on the 11th day after which progress was satisfactory.

Examination on discharge from hospital showed apparently normal conditions in the pelvis.