Medical Memorandum

A Case of Puerperal Tetanus of Unusual Origin

The occurrence of acute intestinal obstruction as a complication of pregnancy is fortunately an uncommon incident. Interest is added to the account of this case by the fact that the patient later developed tetanus.

CASE REPORT

The patient, a 25-year-old married woman, was admitted to hospital on November 4, 1949, at about 6 p.m., complaining of vomiting and abdominal pain. She had been delivered of a live male child weighing 6 lb. 9 oz. (3 kg.) at 4 a.m.—that is, 14 hours before admission.

The history was that abdominal pain started on October 30, and this had been accompanied by some vomiting. She had not called her doctor until the next day. It was presumed that she was beginning labour, and as it was her first pregnancy she was treated at home for the next 48 hours. She was admitted to a maternity hospital on November 2 because her condition was not satisfactory. She was vomiting and her whole abdomen was tense and tender. The diagnosis was uncertain, but she was treated with intravenous fluids and gastric suction. In the early hours of November 4 she was delivered by forceps. She was transferred to the general surgical hospital because delivery had not caused any cessation of the vomiting and her abdomen was still distended and painful. Her bowels had not been opened since November 2, but enemata had produced some flatus.

On admission her colour was poor, and her pulse weak and rapid at 116 a minute. Her tongue was dirty, and her respirations were shallow. Her abdomen was distended, and there was generalized tenderness with muscular guarding. On auscultation it was silent. Her blood pressure was 110/80. Rectal examination showed an absence of faecal material, and there was tenderness. She vomited some brown-stained fluid which was not faecal-smelling. A diagnosis of peritonitis with paralytic ileus was made.

Gastric suction and intravenous therapy were begun and "omnophon," $\frac{1}{2}$ gr. (22 mg.), was injected intramuscularly. With this treatment her general condition improved and the continuous gastric aspiration produced much brown fluid. She continued to progress favourably for about 10 hours, but then deterioration began. Operation was decided upon at this stage because, although the cause of the peritonitis was not known, it was obvious that surgical intervention was required. In addition to the above treatment she was given soluble penicillin, 500,000 units as an initial dose, followed by 100,000 units four-hourly intramuscularly.

Operation.—This was performed by Mr. R. G. Paul at 2 p.m. on November 5. When the peritoneal cavity was opened it was found to contain a large volume of purulent sanguineous fluid. There was gross distension of the small bowel to a point about 3 feet (0.9 metre) proximal to the ileo-caecal valve. At this site the ileum was constricted by a band running from the brim of the pelvis on the right side to the posterior abdominal wall in the paracolic region. Beyond the band the ileum was gangrenous, being friable and greenish grey in colour. The caecum and the rest of the colon were inflamed and collapsed. The uterus and Fallopian tubes showed evidence of external inflammation only. The band was divided. The gangrenous portion of the terminal ileum, which stretched to the ileo-caecal valve, together with about 12 in. (30 cm.) of intestine proximal to the point of constriction, was rapidly excised. As the patient's condition was not improving and was likely to deteriorate very rapidly, Paul's tubes were tied into the ileum and the caecum. Both ends were brought out through the right paramedian incision and the wound was closed in the usual manner. At the end of the operation the patient's condition was critical.

During the next 48 hours she remained seriously ill, but continuous gastric suction and intravenous therapy kept the condition under control. Soluble sulphadimidine, 1 g. four-hourly, was given in the intravenous drip. Her pain was alleviated by pethidine.

On November 10 she was progressing satisfactorily, but at 9 p.m. she complained of stiffness of her jaw and became restless and worried. She settled down when she was given phenobarbitone, $1\frac{1}{2}$ gr. (0.1 g.), and paraldehyde, 4 ml. intramuscularly. At 2 a.m. on the 11th a note was made that the patient was overbreathing and distressed because of spasms of her jaw. A diagnosis of tetany due to hyperventilation was made, and 10 ml. of 10% calcium gluconate was given intravenously, and 4 ml. of paraldehyde intramuscularly. At 9 a.m. her general condition was worsening and the trismus was established. Diagnosis of tetanus was made. Rectal paraldehyde, 6 dr. (23.5 g.) in 6 oz. (170 ml.) of saline, was given. Antitetanic serum, 100,000 units, was administered intramuscularly. At 11.30 a.m. a general spasm occurred. Circulatory failure became evident at once and the patient became unconscious and cyanosed. Despite cardiac stimulants and other resuscitatory measures death occurred at 12.50 p.m.

Necropsy.—This did not reveal any abscess formation in either the wound or the abdominal cavity. The uterus and Fallopian tubes showed evidence of inflammation on their peritoneal surfaces only. Swabs were taken. Direct examination did not reveal *Clostridium tetani*, but culture of the pus from the superficial part of the abdominal wound showed these organisms.

COMMENT

The diagnosis of intestinal obstruction is not easy, especially at term. The time in pregnancy at which obstruction is likely to occur is given by Matthews and Mitchell (1948). The danger periods are (a) during the fourth to fifth month, when the uterus ascends from the pelvis; (b) during the eighth to ninth month, when the foetal head descends into the pelvis; and (c) during delivery and the early puerperium, when there is a pronounced change in the size of the uterus.

With regard to the intestinal obstruction, there are three points to be emphasized. First, one of the causes of the delay in diagnosis is the fact that the contraction of the abdominal wall which accompanies the intestinal colic obscures the uterus and can be interpreted as being due to, or in fact, uterine contractions. Secondly, when the diagnosis is made laparotomy should not be delayed unless labour is either in progress or imminent. Thirdly, gastric suction and intravenous therapy must not be used as a substitute for surgery. Their institution always causes improvement even though the obstruction is still present and the vitality of the bowel is being further impaired. Persistent pain and abdominal tenderness, especially when it is localized, after decompression of the bowel is always of serious import and calls for early surgical intervention.

Cases of tetanus still occur in this country. Sevitt (1949) discussed two recent cases. The above case, however, reminds us that the organism is present in the bowel. Giuseppe Spadaro (1948) collected 42 cases in the world literature and added five due to operations on the abdominal portion of the digestive tract. The normal bowel wall is a barrier to the passage of organisms, but when its vitality is impaired then penetration can occur. In cases in which the bowel is so damaged antitoxin might justifiably be used.

The delay in the diagnosis of tetanus, which may be vital, is due to the fact that the condition is so rare that early signs are either missed or misinterpreted because the disease is not considered.

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