(32 mg.) b.d., there was a slight improvement in her general condition and the oedema became less. The blood pressure was then 160/98 mm. Hg, and a catheter specimen of urine still showed a cloud of albumin on testing.

The following day she complained of some blurring of vision, with spots in front of her eyes during the night, and this persisted during the day. She also complained of backache and headache mainly in the frontal region, and her blood pressure rose to 168/110 mm. Hg. In view, therefore, of the sudden deterioration in the patient's condition it was decided to perform a surgical induction forthwith. Artificial rupture of membranes was attempted but had to be abandoned because an unsuspected central placenta praevia was felt completely covering the internal os. There was some slight bleeding on digital examination. The patient was thereupon prepared at once for caesarean section, for this was considered to offer the best chance of survival to both mother and baby.

Operation

On March 28 at 6.30 p.m. atropine, 1/100 gr. (0.65 mg.), was given. At 7 p.m. a general anaesthetic was started (chloroform 1 part mixed with ether 3 parts). At 7.15 p.m. the abdomen was opened through an incision for a classical caesarean section. As soon as the uterus was reached its anterior wall was seen to be a deep purple in colour, almost the whole of the myometrium being extremely thin—in places almost like paper. It appeared to consist merely of the outer peritoneal covering and a little fibrous tissue and to be in imminent danger of spontaneous rupture. There were many peritoneal adhesions, especially on the anterior uterine wall, and omentum and intestine were also adherent to the uterus. A living female infant, breech presentation (right sacro-anterior) was then delivered. The upper segment of the uterus was separated from intestines and omentum and removed. During this part of the operation the wall of the uterus came apart in fragments when pulled upon by forceps. Hysterectomy was attempted but found to be impossible owing to adhesions, so the remaining lower portion of the uterus was sewn together with a double row of catgut sutures. The placenta, which was of the central variety and almost filled the lower segment, was very disorganized and infarcted in appearance. Towards the end of the operation the patient became shocked and was given oxygen. She was then returned to the ward.

At 8.15 p.m. anti-shock treatment was continued and intravenous plasma started. Soon afterwards the patient began to recover consciousness but was still in a very shocked condition. There was some improvement after one bottle of plasma. At 9 p.m. intravenous transfusion of Group-O Rhesus-negative blood was begun. There were some slight rigors in spite of satisfactory cross-matching.

At 11 p.m. there was marked deterioration in the general condition. The patient became very restless and delirium started. Morphine, 1/6 gr. (11 mg.), was given at 11.45 p.m. At 12 midnight the pulse became very much weaker and the respirations were infrequent, shallow, and irregular. Nikethamide and continuous oxygen were given, but the patient soon became comatose and died.

Discussion

The sudden change from a moderately severe toxæmia to a condition bordering on true pre-eclampsia, in spite of treatment having been started, after symptoms had been present for only just over a week before admission to hospital is noteworthy. There were present three abnormal conditions, any one of which might have proved fatal, for at any moment immediately before entering hospital the patient might have been overtaken by (1) the sudden onset of eclampsia, (2) a severe antepartum haemorrhage, and (3) a ruptured uterus.

The cause of the low-lying placenta in this case might have been the poor condition of the upper portion of the uterus, with consequent difficulty in nidation of the ovum

in a normal position. The reason for the excessive thinness of the upper uterine segment and the almost complete disappearance of muscle fibres in certain areas was not determined. There was no history of peritonitis or an operation which might have accounted for the many dense adhesions found at laparotomy. So far as the patient herself knew her previous confinements were quite normal, apart from some degree of hypertension towards the end of the second pregnancy. There was no history of pyrexia during the puerperium after the birth of her other children.

The previous hypertension might have contributed to the degeneration of the myometrium, for in women dying from eclampsia areas of myometrial infarction have been found post mortem. Hypertension could presumably lead to a relative ischaemia of the tissues supplied by the affected vessels and perhaps in some cases, if severe enough and prolonged, to their replacement by fibrous tissue. Furthermore, this patient was clinically rather anaemic, although unfortunately a haemoglobin estimation and erythrocyte count were not done. Anaemia would conduce to any degenerative processes which might occur. Another possibility is that there was an undiagnosed partial rupture during one of the previous confinements, although there was no history of any previous dystocia; nor, if the myometrium was then healthy, is there any reason why even a partial rupture should have occurred. Probably, as often in medicine, the cause of this and other morbid conditions will ultimately be found to be a combination of several factors.

I wish to thank Dr. R. A. Zeitlin, Medical Superintendent of St. Mary's Hospital, Portsmouth, who has kindly given permission for the report on this case to be published, and Mr. Trevor Barnett, consulting obstetrician and gynaecologist to the hospital.

Medical Memoranda

Abdominal Implantation of Fertilized Ovum

Since examples of implantation of a fertilized ovum in the peritoneal cavity are comparatively rare, the following case may be of some interest.

CASE REPORT

A married woman aged 32 was admitted to the Royal Victoria Infirmary, Newcastle-upon-Tyne, on Jan. 16, 1947, as a case of ruptured ectopic pregnancy. In 1940 she had a normal full-time delivery and her puerperium was uneventful. She had never had a miscarriage, nor could any evidence of previous abdominal or pelvic inflammation be obtained. Her menstrual cycle was regular every 28 days and the period usually lasted four to five days. Her last normal period began on Dec. 10, 1946, and was of the usual duration. She was perfectly well until Dec. 26, when at 1 a.m. she was seized with sudden acute lower abdominal pain which prostrated her and made her crawl about in agony. She remarked that the pain was similar to that of labour. After three hours the pain disappeared suddenly and she felt well again. There was no haemorrhage per vaginam. A week later she was able to undertake a long journey. On Jan. 12 she had another attack of lower abdominal pain, not so severe as previously, but on this occasion it persisted until Jan. 15, although it was not particularly acute. With the onset of pain, haemorrhage per vaginam was noted, and it continued right up to the time of operation. While reading in bed on the morning of Jan. 16 a further sudden attack of acute lower abdominal pain occurred and she felt very ill indeed. She was seen by her doctor at 6 a.m. and sent into hospital.

On admission the patient looked very ill, with a definite cyanotic tinge of the skin. The temperature was 98.6° F. (37° C.); the pulse was 100 and of poor volume. She complained of generalized lower abdominal pain, and also pain in the right shoulder region and the lower ribs on the right side. Examination showed a diffuse tenderness over the lower abdomen, possibly slightly greater on the right. There was no rigidity and Cullen's sign was absent. Vaginal examination caused the patient much pain, but it was possible to feel a boggy mass in the pouch of Douglas. A lump was not palpable.

Operation was carried out without delay on the diagnosis of ruptured tubal gestation. The abdomen was opened through a mid-line subumbilical incision and was found to be full of blood—in the main fluid, but containing some large dark clots. Both tubes were examined and found to be normal in appearance, as was the right ovary. A small bleeding-point was noticed on the left ovary (possibly due to the points of the dissecting forceps) and was sutured. On clearing away the clots in the pouch of Douglas the ovum was found to be implanted at the bottom of the pouch and slightly to the right, and was about the size of a cherry. There was a steady trickle of blood coming from the implantation site. The ovum was picked up with sponge-holding forceps and dissected clear of the peritoneum by means of a dissector. The peritoneum was stitched with a continuous catgut suture as there was still a little bleeding from the raw area. Some difficulty was experienced in this part of the operation on account of the depth of the pouch of Douglas. The abdomen was cleared of blood so far as possible and a further examination of the Fallopian tubes made. To the naked eye and to palpation both appeared normal. The abdomen was closed in layers without drainage. Blood transfusion was started as soon as the abdomen was opened and continued throughout the operation and on return to the ward.

The patient's convalescence was satisfactory as regards her abdomen, but a weakness of the muscles of the left arm and forearm was noticed immediately after the operation, due to over-stretching of the brachial plexus. It was this arm that was used for the transfusion, and the condition was undoubtedly caused by over-abduction of the arm with the patient in the Trendelenburg position. The condition improved rapidly, but there was still some weakness of the biceps when she was discharged from hospital. The tissue removed from the pouch of Douglas had the appearance of chorionic villi, and this was subsequently confirmed by histological examination. The pathologist's report stated: "The material consists of recent blood clot and chorionic villi." An ovum was not found.

COMMENT

The interest in the case lies in whether this was a primary or a secondary abdominal implantation. On the visual evidence of normal tubes one is tempted to say that it was indeed primary. A consideration of the history, however, puts a rather different complexion on the matter, and it is almost certain that her first attack of abdominal pain on Dec. 26 was due to the successful efforts of one tube to expel the ovum in its lumen. The second attack of pain and the bleeding per vaginam are more difficult to explain. Only four days elapsed between the onset of the pain and operation, and it seems barely feasible to suggest that the expulsive efforts of the tube on Dec. 26 were not completely successful and that total expulsion did not occur till Jan. 12. Had this been the case one would have expected to find some visual evidence of recent tubal involvement. Furthermore, the ovum was firmly implanted on the peritoneum of the pouch of Douglas, pointing, in my opinion, to a longer "implantation-time" than four days. The available evidence therefore points to this being a case of secondary implantation of a fertilized ovum.

I wish to thank Mr. H. Harvey Evers, honorary gynaecologist, Royal Victoria Infirmary, for permission to publish this case, and the Pathology Department of the infirmary for the histological report.

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A Case of Cerebellar Tumour Simulating Pyloric Obstruction

It is recognized that in cases of intracranial tumour nausea and vomiting may be sufficiently prominent, especially in children, to attract attention to the stomach as the cause of the trouble (Camp, 1925). Bailey *et al.* (1939) mention one case of their own in which appendicectomy had been performed, and two others, reported by Babonneix, which had been treated for some months for enteritis and chronic appendicitis respectively. Cushing (1930) found cyclical vomiting and pyloric stenosis among various erroneous diagnoses of cases which eventually came under his care.

In the following case, owing to the prominence of the gastro-intestinal symptoms and the absence of physical signs in the central nervous system, it was thought wise to perform a barium-meal examination to exclude a lesion of the gastro-intestinal tract before subjecting the patient to the more elaborate neuro-

surgical diagnostic procedures. The surprising discovery of a 26-hour delay in the stomach led to the mistaken diagnosis of organic pyloric obstruction.

CASE HISTORY

On Aug. 15, 1945, a boy aged 10 was admitted with a six weeks' history of vomiting, occurring each morning within a few minutes of waking up, followed by a frontal headache; this was severe and usually lasted 10 to 20 minutes but occasionally persisted till mid-day. The vomiting sometimes recurred during the morning, but it, too, always ceased about midday. He also complained of loss of weight and general malaise.

On examination the child was thin, but no other abnormal physical signs were detected. The early morning vomit was about 100 ml. of greenish-yellow, clear, glairy fluid. The temperature, pulse, and respiration rate remained normal throughout. The blood count, E.S.R., catheter urine, and a straight radiograph of the skull and chest were all normal. The cerebrospinal fluid was clear and colourless, under pressure of 80 mm. of water; no clotting occurred; cells 2 per 3 c.mm.; W.R. negative; Lange, no precipitation. The visiting ophthalmic surgeon, Mr. Eugene Wolff, declared the fundi to be normal, as did the neurologist, Dr. Hinds Howell, who also found no evidence of abnormal signs in the central nervous system.

Several attempts at a barium-meal examination were frustrated by vomiting, but eventually some was retained. The report stated: "Oesophagus, no obstruction; stomach, slight dilatation; duodenum, cap not clearly seen, no tenderness; caecum, no tenderness, mobile. Stomach surprisingly shows 26-hour delay and irregularity of the pyloric end." Pyloric obstruction of unknown aetiology was diagnosed, a surgical opinion was obtained, and laparotomy was advised.

On Sept. 13, as the child was showing signs of dehydration, an intravenous drip infusion of saline was set up in preparation for a laparotomy next day. While this was being done in the afternoon, the child complained of headache, and this was the first occasion on which the headache was noted to have persisted after midday. At 7 a.m. on the 14th, respiration became irregular, the face flushed, and the neck rigid and extended. Shortly afterwards the patient became cyanosed; the pupils were widely dilated and did not react to light; respiration became shallow and then imperceptible; the radial pulses were impalpable, but heart sounds could still be faintly heard. Nikethamide and digoxin were given intravenously, and artificial respiration was started with oxygen administered by a B.L.B. mask. The heart beat improved at first but later became weaker and ceased at 9.15 a.m. The respiratory rhythm showed no signs of restoration.

At necropsy no anatomical defect of the pylorus could be found, and the stomach was not obviously dilated. A large gush of cerebrospinal fluid appeared when the tentorium cerebelli was cut, and a tumour was found in the cerebellum, about 2 in. (5 cm.) in diameter and approximately symmetrical about the midline. The morbid histological report stated that the tissue was "a spongioblastoma showing clear evidence of rapid growth."

COMMENT

The mechanism of the delay must presumably have been a gross interference with the normal peristaltic movements. The radiographic appearance of the stomach was not suggestive of gastroparesis, and it seems likely that there was a central interference with the normal vagal control of the stomach leading to a gastric stasis, such as was observed by Dragstedt and Schafer (1945) in three of their series of 15 cases in which vagotomy was performed for peptic ulcer. Orr and Johnson (1947) also found that most of their patients after vagal resection had a six-hour residue, and two had a 24-hour delay without any evidence of organic obstruction and without any inconvenience (Orr, personal communication).

My thanks are due to Dr. Bruce Williamson, physician in charge of the case, and to Mr. Roland Segar, medical superintendent of Wellhouse Hospital, for permission to publish the case.

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Sweden's oldest inhabitant, Mrs. Johanna Johansson, died recently aged 107 years 6 months. She was congratulated on her 107th birthday by a great-grandson 105 years younger than herself.