obtained and gentle traction applied. This was accomplished only after turning the child on her right side. Watching all the time through the screen, the clip was pulled up for about an inch. It then stuck, and it was seen that one prong had caught in the tissues. Further gentle traction showed that this prong was acting as a fulcrum round which the head was rotating. Traction was therefore continued, and the prong, with its point embedded, was seen to be gradually bending at its centre. Traction was continued till the

FIG. 2

prong was bent double and no further progress was being made. Then, still with a firm grip on the first prong, a slight downward push was made in an attempt to dislodge the point. This was successful, and by a stroke of luck the now-doubled prong entered the lumen of the bronchoscope when further traction was applied. Thereafter it was a comparatively easy matter to draw the whole clip into the tube and withdraw the latter and its contents in one movement. The proceedings were viewed the entire time through the x-ray screen, and it would have been impossible to remove the foreign body without the vision thus afforded.

The patient subsequently developed, not surprisingly, a complete collapse of the right lower lobe and a swinging temperature for a while, but with the help of sulphapyridine and breathing exercises she made a satisfactory recovery, and was discharged from hospital on March 25, 1943, to attend the chest clinic as an out-patient.

Case IV

A boy aged 12 was admitted on April 30, 1945, with a history of having swallowed or inhaled a bent pin which he had been holding between his teeth in an effort to straighten it. The patient was not distressed in any way and there were no abnormal physical signs. X-ray examination showed an apparently straight pin lodged in the commencement of the right main bronchus. An ordinary white steel pin similar to that involved was seen to have some ornamentation of an orange-coloured composition material around the head.

The child was placed on the operating table and chloroform anaesthesia induced. On introducing an Irwin Moore bronchoscope into the right bronchus one-half of the pin could be easily seen. With a little manipulation the ornamented head end came into view on the right, and it was seen that the pin was in fact bent into a "V," as stated by the child, though this was not apparent on the films. Having ascertained the shape and position of the pin, forceps were introduced and a firm grip obtained as near the point as possible, which was then drawn into the lumen of the tube. The

decorated head of the pin impinged on the rounded end of the bronchoscope. This was then gently withdrawn without any difficulty till the subglottic region was encountered, when there was a slight hitch; but a little manipulation sufficed to withdraw the pin past the vocal cords, after which there was no further difficulty.

Other than a moderately severe laryngitis for a few days after the operation there were no ill effects, and the child was discharged fit on May 7.

Case V

A baby aged 18 months was admitted at 10 p.m. on May 19, 1945. The mother said she thought the baby had swallowed a piece of bone or button—"there were plenty of bits on the floor." Immediate x-ray examination revealed a shadow about the post-cricoid level, but it was difficult to be sure whether it was in the air or the food passage. From an oesophagoscopy performed under general anaesthesia it was evident that there was no foreign body in the oesophagus. Bronchoscopy was then attempted, but, owing to a misunderstanding as to the age of the child in the first place, the smallest-sized bronchoscope was not available, and the next size was too large to pass through the glottis without undue force, which would have damaged the cords. A brief glimpse was obtained, however, of the upper part of the trachea, but no foreign body could be seen. The child was breathing comfortably and was in no way distressed, so it was decided to postpone further examination till another skiagram could be taken the next day. This was done, and a lateral view showed a small pointed body at the level of the sixth cervical vertebra, but it was still not clear whether it was in the bronchus or the oesophagus. A barium meal was therefore given, and it immediately became clear that the offending article was in front of the oesophagus in the left bronchus, possibly exerting slight pressure on the oesophagus.

The baby was taken to the theatre and chloroform anaesthesia induced. The smallest-size Negus bronchoscope was then introduced through the larynx with the aid of a Mackintosh electrical laryngoscope. Owing to the small lumen of the tube the view was very restricted, but by keeping well to the left side of the trachea the bronchoscope passed easily into the left main bronchus. After sucking away some mucus there appeared to be a small dark hair-line across the lumen of the bronchus, which could not be sucked away and was presumed to be the foreign body, although no adequate view could be obtained. A very fine pair of forceps was introduced down to the site and gentle palpation performed, when something hard could be defined. The forceps were opened and manipulated till it was felt that a grip on the hard body had been obtained; traction was then exerted until the forceps ends and their contents were within the lumen of the bronchoscope. The latter and its contents were then withdrawn in one movement. On examination the foreign body was seen to be an irregular piece of button of some composite material, approximately half an inch long and a quarter-inch in diameter.

Beyond slight pyrexia for a few days the baby suffered no ill effects, and was discharged from hospital on May 25.

I am indebted to Dr. W. E. Crosbie, medical superintendent of Alder Hey Hospital, for permission to publish the above cases, and to Dr. Bennett-Jones for the anaesthetic in Case III and Dr. Derham in the four remaining cases. I have also to thank the radiographer, Mr. Lucas, for the x-ray films and prints and his valuable assistance in screening the patient in Case III.

AN UNUSUAL CASE OF ERYTHROBLASTOSIS FOETALIS

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The possibility that erythroblastosis foetalis may sometimes be due to a heterospecific pregnancy (i.e., to maternal anti-A or anti-B iso-agglutinins) has been considered by Wiener (1943); and Boorman, Dodd, and Mollison (1942, 1944) have reported three cases in which this seemed to have happened. A fourth and rather striking case has been investigated by us, with the following findings.

Clinical History

Mrs. A., a primigravida aged 24, attended the antenatal clinic at the City Hospital, Nottingham, on Jan. 28, 1944, and was seen by one of us (J. B. C.). Her L.M.P. was Sept. 29, 1943, and her fundal height at 14-16 weeks corresponded with the period of amenorrhoea. She was found to have an intermediate degree of

pelvic contraction, but otherwise her general condition was satisfactory. When aged 9 years she had had scarlet fever complicated by acute rheumatism, but was nursed at home and was off school for three months, apparently making a complete recovery.

She attended the ante-natal clinic regularly throughout and, apart from the failure of the head to engage at the 36th-38th week, her condition was entirely satisfactory and normal in every respect. Arrangements were made to admit her on July 3, 1944, three days before the expected date of confinement, for investigation of the pelvic contraction. She was admitted in labour to hospital on July 1—approximately at term. The foetus was in the vertex left occipito-lateral position and the head poorly flexed and mobile: no hydramnios was present.

On admission skiagrams for foeto-pelvic disproportion were taken and, as no disproportion seemed to be present, it was decided that she be given a trial labour. After a first stage of labour lasting just over 22 hours, and a second stage of two hours, it was found that the head remained arrested in the transverse diameter of the pelvis at the level of the ischial spines.

Under spinal anaesthesia a live mature male infant with gross hydrops foetalis was delivered by manual rotation and forceps. It weighed 7 lb. 2 oz. and was 17½ in. in length. After birth the infant's colour and cry were both very poor, and remained so despite lobeline injected into the umbilical vein. The infant died 25 minutes later.

The placenta and membranes looked normal, did not show any of the typical macroscopic features generally associated with such a foetus, and weighed 21 oz.—a normal ratio in weight to the infant. At delivery blood was taken from the umbilical cord for investigation, the results of which are given below.

Necropsy of the infant showed gross oedema of all the viscera, with much free greenish fluid in all the serous cavities. The lungs were surprisingly well aerated though markedly oedematous; and apparently had been expanded as fully as was possible under the circumstances. The liver and heart appeared normal, but the spleen was large, though normal in shape. No evidence of injury to the meninges or of intracranial haemorrhage was found, but the brain was very oedematous and much more friable than normal. The thymus was also much larger than normal, although its consistency was not apparently altered. Pieces of liver, thymus, spleen, sternum, and a lymph node were sent for histological examination, and these showed the very characteristic histological picture of erythroblastosis foetalis.

The patient made an uninterrupted recovery and was discharged on July 17. She was seen at the post-natal clinic on Aug. 15, when her condition was satisfactory from an obstetric point of view. She was asked to return in four weeks' time for further serological investigations, but has so far defaulted.

Serology

Father's blood—Group A Rh-negative. Mother's blood—Group B Rh-negative. Foetal blood—Group A Rh-negative. No irregular iso-agglutinins were found in the mother's serum, but her anti-A titre—determined against A₁ cells of average sensitivity by the method of Taylor and Ikin (1939)—was 16,000,000. Anti-A was looked for in a sample of foetal blood (obtained from the cord) and was found present to a titre of 128. Despite the presence of this anti-A in the foetal plasma, the foetal erythrocytes were not agglutinated; we think that this may have been due to the gradual elimination of the more sensitive foetal red cells (i.e., those containing substantial amounts of A substance) by the powerful maternal anti-A iso-agglutinin, since the foetal red cells were relatively insensitive to anti-A sera, and were agglutinated by the maternal anti-A only to a titre of 1024. The husband's cells were agglutinated to a titre of 250,000 by the mother's serum.

On Aug. 8, five weeks after delivery, the maternal anti-A titre was 4,000,000. Unfortunately, it was not possible at the time to determine the A subgroups of husband and baby owing to lack of the necessary sera. As the patient failed to attend again no further serological investigations were possible.

In view of the extraordinarily high maternal anti-A iso-agglutinin titre, and of the presence of Anti-A in the foetal blood, it is difficult to avoid the conclusion that this was a case of erythroblastosis foetalis due to heterospecific pregnancy.

Our thanks are due to Dr. W. R. Harvey, Royal College of Physicians Laboratory, Edinburgh, for the histological report, and to Dr. C. L. Crawford Crowe, medical superintendent, City Hospital, Nottingham, for permission to publish this case.

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Medical Memoranda

Full-term Extra-uterine Pregnancy associated with Extensive Prolapse

The following case shows many points of interest in addition to its rarity. There was complete lack of symptoms pointing to an early emptying of the uterine contents into the abdominal cavity. Toxaemia occurred at 36 weeks' gestation. The persistent transverse lie and extensive prolapse were aids to the diagnosis.

Mrs. P., 7-para, aged 41, first reported to the ante-natal clinic when four months pregnant. Her past obstetrical history was as follows: the first two children had been born prematurely at eight months, the first surviving 7 weeks and the second 2 days; she then had four normal pregnancies and labours, all the children being alive and healthy.

At her first attendance at the clinic her only complaint was of "dropping of the womb." On examination the fundus was enlarged to the size of a 16-weeks pregnancy, and on vaginal examination an extensive prolapse, with slightly eroded cervix, was present. The cervix was disinfected, pushed up, and a large ring pessary inserted. The date of her last period was rather uncertain; but there had been no irregular bleeding or pain, and the estimated date of delivery worked out at about the middle of March.

The pregnancy progressed, but the ring pessary was unsatisfactory because it failed to keep the prolapse in position and failed to stay in the vagina for any length of time. As the cervix was now more ulcerated and bleeding, it was decided to admit the patient to hospital. Improvement occurred after admission on Jan. 19, 1945, and while she was in bed the prolapse was not evident except after a bowel action. As the patient had another two months to go before full term, a Napier's pessary was fitted and she was discharged with suitable instructions. She was then very much more comfortable, but had to be readmitted a month later—Feb. 19—with toxaemia of pregnancy. There was gross pitting oedema of feet and legs, the B.P. was 182/110, and the urine contained a trace of albumin. After a week's rest in bed the B.P. had fallen to 140/88 and the urine was clear. The oedema had improved but not quite disappeared.

The foetus at this stage was lying in a transverse position high up in the abdomen. When version was attempted the foetus immediately reverted to its former position. An x-ray examination was carried out and the following report obtained: "This is a single pregnancy, transverse presentation, spine upwards, the head being opposite and above the level of the left iliac crest. The biparietal diameter is estimated at 3.6 in."

It was suspected that we might be dealing with an extra-uterine pregnancy or that the placenta might be occupying the lower uterine segment. However, before further investigations could be carried out the patient started to have violent abdominal pain, with vomiting and rapid rise in pulse rate. The pain seemed to be localized at first to the right iliac region, and there were no palpable uterine contractions; but the pain and tenderness rapidly became generalized over the abdomen, together with rigidity of the rectus muscles.

A laparotomy was obviously indicated, and when the patient was anaesthetized with cyclopropane the contour of the abdominal swelling was seen to be quite irregular, and the muscles being relaxed, foetal parts could be felt very easily. An incision was made in the midline below the umbilicus, and a thin-walled bluish sac presented at the wound with the foetus plainly visible inside. A live male baby was delivered; but, unfortunately, in spite of all efforts at resuscitation, he died about an hour later.

The umbilical cord was about 18 in. long and its distal half was divided into two separate vascular bundles, which entered the placental mass separately. The latter had an extensive attachment in the pelvis, the peritoneal surfaces of the bladder, caecum, enlarged uterus, and broad ligaments being involved. Separation of the placenta, tentatively tried at one spot, was easily effected, and the whole placental mass was removed much in the same way as an adherent placenta is removed from the uterus. No attempt was made to pick up bleeding-points, but the whole bed from which the placenta had been removed was packed with a length of wide ribbon gauze, the end of this being brought out through the lower part of the abdominal incision. The packing was removed 24 hours later under gas anaesthesia, and the opening through which it came was closed.

The patient had a happy convalescence and was able to go home 18 days after her confinement.

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G. E. Morris (*New Eng. J. Med.*, 1945, 233, 180) states that multiple ulcers of the legs are often due to infestation of the clothing with body lice, especially in the middle-aged. Search for each parasite therefore should be made in all suspicious cases.