for the alleviation of physical stress, patients should be managed as would any other case of subarachnoid haemorrhage.

After recovery from the acute illness, pregnancy should be allowed to progress to term. Spontaneous delivery, with adequate pharmacological and instrumental assistance, is advised, save in cases with recent haemorrhage, when caesarean section may occasionally be indicated.

After recovery has occurred there is no justification for advising against further pregnancies.

I am grateful to Professor F. J. Nattrass for permission to publish these cases and for his advice and encouragement.

REFERENCES

Ask-Upmark, E., and Ingvar, D. (1950). *Acta med. scand.*, **138**, 15.
Bell, F. (1949). *West. J. Surg.*, **57**, 190.
de Carle, D. W. (1949). Ibid., **57**, 183.
Conley, J. W., and Rand, C. W. (1951). *Arch. Neurol. Psychiat., Chicago*, **66**, 443.
Dahle, T. (1946). *Norsk Mag. Lægevid.*, **11**, 587.
Garber, M., and Maier, R. R. (1948). *Amer. J. Obstet. Gynec.*, **56**, 1174.
Gershenfeld, D. B., and Savel, L. E. (1950). *J. med. Soc. N.J.*, **47**, 374.
Hamby, W. B. (1948). *J. Amer. med. Ass.*, **136**, 522.
King, A. G. (1933). Ibid., **100**, 15.
Lazard, E. M. (1899). *Philad. med. J.*, **4**, 1091.
Mackenzie, S. M. (1933). *British Medical Journal*, **1**, 824.
Masten, M. G. (1935). *Wis. med. J.*, **34**, 168.
Moskowitz, H. L., and Schneider, H. (1938). *Amer. J. Obstet. Gynec.*, **36**, 489.
Olivecrona, H., and Riives, J. (1948). *Arch. Neurol. Psychiat., Chicago*, **59**, 567.
Ramstad, H. (1948). *Nord. Med.*, **38**, 888.
Rhoads, E. E. (1947). *Amer. J. Obstet. Gynec.*, **54**, 533.
Richardson, J. C., and Hyland, H. H. (1941). *Medicine, Baltimore*, **20**, 1.
Russel, C. K. (1933). *Canad. med. Ass. J.*, **28**, 133.
Sands, I. J. (1929). *Arch. Neurol. Psychiat., Chicago*, **21**, 37.
Strauss, I., and Tarachow, S. (1937). Ibid., **38**, 239.
Symonds, C. P. (1923). *Guy's Hosp. Rep.*, **73**, 139.
Thompson, W. B. (1949). *West. J. Surg.*, **57**, 190.
Walton, J. N. (1952a). M.D. Thesis, University of Durham.
—— (1952b). *British Medical Journal*, **2**, 802.

Medical Memorandum

Acute Appendicitis in the Newborn

Acute appendicitis is rare in young infants, and extremely so in the first few weeks of life. The literature on this subject has been widely surveyed by Etherington-Wilson (1945), who reported an additional case in an infant aged 16 days. Including his own case, Etherington-Wilson found sixteen cases in the age group 0–4 weeks. In six of these the appendices were in hernial sacs; in the remaining ten the diseased appendices were intra-abdominal. Of the sixteen infants ten died and six recovered. In all six recoveries the appendices were in hernial sacs.

A further search of the literature has revealed one other case, reported by Ch'eng and K'ang (1937). The infant was 3 days old, and presented with constipation, intense meteorism, and vomiting. A diagnosis of acute diffuse peritonitis was made. The treatment was expectant and the child died on the 12th day of life. Necropsy showed an acute gangrenous appendicitis, without macroscopic perforation, which had given rise to a diffuse purulent peritonitis.

CASE REPORT

The infant, a first-born male, was premature and weighed 4 lb. 12 oz. (2,150 g.) at birth. There was no abnormality of labour or delivery, but the infant was stated to be feeble at birth. At first he had difficulty with sucking, but by the age of 10 days he had improved and was taking expressed breast milk satisfactorily from a bottle.

On the eleventh day difficulty in breathing was noticed, and pneumonia was diagnosed. Penicillin was started and there was some clinical improvement, followed by a relapse. He was then transferred to Southmead Hospital, where he was found to be pale and wasted, with gross dehydration. The abdomen was enormously distended and tympanitic. There were many visible coils of bowel. No abnormal mass was felt, and the liver, spleen, and kidneys were not palpable. Rectal examination was normal and the stools were small, hard, and yellow. The heart, lungs, and nervous system were normal, and there was no abnormality of pulse, temperature, or respiration rate. The left tympanic membrane was inflamed.

An intravenous infusion of glucose-saline was begun. This produced an apparent improvement in the general condition, but diarrhoea had now developed, and there was much mucus in the stools. Sulphaguanidine and penicillin were given without effect, and deterioration was rapid. A generalized oedema was now present; the respiration rate became rapid, the temperature rose, and the left ear began to discharge. Death occurred suddenly on the 20th day of life.

At necropsy the significant findings were: (1) Gangrene of the appendix, with the formation of an appendix abscess. The appendix had sloughed off about 0.5 cm. from its base and lay in an abscess cavity, whose walls, formed from the caecum, terminal ileum, and omentum, were held together by delicate fibrinous adhesions; the cavity contained about 3 ml. of thin pus. Organisms present: *Staphylococcus aureus* (coagulase-positive), and *Bact. coli*. (2) Left otitis media: *Staphylococcus aureus* (coagulase-positive) and *Proteus vulgaris* were found.

COMMENT

In the above case the diagnosis of an acute intraperitoneal condition was not considered; the symptoms and signs were thought to be due to acute otitis media, with secondary diarrhoea leading to dehydration and a marasmic state. The diagnosis of acute intra-abdominal appendicitis in the very young appears to be fraught with difficulty, and so far does not seem to have been made at a stage early enough for treatment to be effective.

Localizing signs are more often absent than present (Holt and McIntosh, 1940), as in the case here reported. Abt (1917), in his review of 80 cases under the age of 2 years, and Etherington-Wilson (1945), both emphasize the fact that vomiting is almost invariable. However, vomiting is a feature of many neonatal states and therefore cannot be of much value in diagnosis. In the present case it was absent throughout.

Abdominal distension seems to be a frequent finding, and, if associated with constipation and visible peristalsis, may mimic intestinal obstruction. Diarrhoea may further confuse the diagnosis. On several occasions the condition has been mistaken for pneumonia on account of the rapid respiration rate.

If the diagnosis could be made early enough, before the apparently inevitable gangrene and perforation have occurred and before peritonitis has become general, operation would surely save some of these infants. Etherington-Wilson is convinced that spinal analgesia is the anaesthetic of choice, and this, combined with proper fluid and electrolyte replacement and antibacterial therapy, should go far towards improving the prognosis of this rare but very fatal condition.

I am indebted to Dr. H. J. L. O'Sullivan for details of the infant's birth and early life, and to Dr. R. Sandry for the report on the necropsy.

R. D. G. CREERY, M.D., M.R.C.P., D.C.H.
Lately Paediatric Registrar, Southmead Hospital, Bristol.

REFERENCES

Abt, I. A. (1917). *Arch. Pediat.*, **34**, 641.
Ch'eng, Y. H., and K'ang, H. J. (1937). *Chinese med. J.*, **52**, 876.
Etherington-Wilson, W. (1945). *Proc. roy. Soc. Med.*, **38**, 186.
Holt, L. E., and McIntosh, R. (1940). *Diseases of Infancy and Childhood*, 11th ed. New York.