Clinical Correlation

There seems to be no evidence that the site of the primary growth bears any relation to the condition of the small-intestinal mucosa. The clinical state of the patients does appear to relate to the mucosal structure (Tables I and II). Thus the three patients with a normal mucosal appearance were comparatively fit, and only one (Case 2) had slight loss of weight. This patient had obstructive jaundice from a carcinoma of the common bile-duct and steatorrhoea. Of the six patients with an abnormal mucosa five had lost weight and in four steatorrhoea was present.

Discussion

It would be wrong to generalize from such a selected series, but there is a strong suggestion that the small-intestinal mucosa can be secondarily affected by a malignant growth. Two patterns are seen, either a hypoplasia of the mucosa or a flattened mucosa similar to that found in idiopathic steatorrhoea and probably due to a maturation arrest of crypt cells (Creamer, 1962). It is possible that four patients had coincidental idiopathic steatorrhoea, but the odds would seem to be heavily against this. In only one of these cases had a gluten-free diet been tried, so far without response. Even if a response to gluten withdrawal were obtained the distinction between a

primary and a secondary mucosal change would not necessarily be certain.

The clinical correlation is of considerable interest. It may well be that some of the ill-health and loss of weight in malignancy is caused by an abnormal small-intestinal mucosa. A similar picture has been reported in chronic ulcerative colitis by Salem *et al.* (1964).

Summary

The small-intestinal mucosa has been examined from nine cases with malignancy, of which six arose outside the gastro-intestinal tract. In three cases the mucosa appeared normal and in six cases marked abnormalities were found, two showing a thin hypoplastic mucosa and four a flattened mucosa as in idiopathic steatorrhoea. Loss of weight and ill-health appeared to be associated with an abnormal small-intestinal mucosa.

I am grateful to Dr. G. C. J. Wiernik and Dr. A. B. Myles for assistance in obtaining two of the specimens.

REFERENCES

- Creamer, B. (1962). *Gut*, **3**, 295.
 — (1964). *Brit. med. J.*, **2**, 1371.
 Gough, K. R., Read, A. E., and Naish, J. M. (1962). *Gut*, **3**, 232.
 Salem, S. N., Truelove, S. C., and Richards, W. C. D. (1964). *Brit. med. J.*, **1**, 394.

Haematoma of the Umbilical Cord

P. K. IRANI,* M.B., M.R.C.O.G.

Brit. med. J., 1964, **2**, 1436–1437

Reported cases of haematoma of the umbilical cord associated with pregnancy are rare. Dippel (1940) reviewed the world literature and added a further eight cases of his own, bringing the total of such cases to 36. Three further cases have since been reported—one each by Breen *et al.* (1958), Toland *et al.* (1959), and Kretowicz (1961). The rarity of this lesion has prompted the following case reports.

Case 1

A 25-year-old primigravida was admitted to hospital on 8 April 1964 five days past her expected date of confinement. Her prenatal course had been essentially normal, although at 35 weeks she had been treated for iron-deficiency anaemia with parenteral iron and folic acid. She was Wassermann- and rhesus-negative without antibodies.

Examination revealed a full-time intrauterine gestation; the foetus presented by the vertex and the head was not engaged; the foetal heart rate was 140 per minute. On vaginal examination the pelvis was adequate and the remainder of the physical examination was non-contributory.

On 14 April, during routine ward check-up, the foetal heart was discovered to have slowed to 78. During the few days prior to this, while she was in hospital, the foetal heart rate had been recorded as regular, varying from 130 to 140. The patient was examined vaginally and the cord was not presenting. The membranes were ruptured and the liquor contained thick meconium; lower-segment caesarean section was therefore immediately performed. A swelling

of the cord extending for 10 cm. from the umbilicus and 5 cm. in diameter was found; it was dark red in appearance and was reminiscent of a gangrenous loop of bowel.

Gross examination of the placenta, which had been situated at the fundus, showed it to be essentially normal, 18 cm. in diameter, and weighing 500 g. The cord measured 40 cm. and was attached to the placenta 5 cm. from its edge. The contents of the swelling appeared to be clotted blood. No abnormalities of the remaining cord were identified.

On histological examination of multiple sections of the umbilical cord the umbilical arteries were normal; the cord was distended by a haematoma of recent origin which was continuous at one point with the lumen of the vein. Pathologically the cause of rupture of this vessel could not be determined.

The infant, a male, weighed 5 lb. 12 oz. (2,610 g.). The cardiac rate at birth was 78 and persisted so for two days. E.C.G. and chest x-ray film showed no cardiac abnormality and there was sinus bradycardia. The baby's haemoglobin was 110%. After a normal post-partum course both patient and infant were discharged from hospital.

Case 2

A primigravida aged 35, married 11 years, expected her first child on 18 March 1960. The prenatal course was normal and she went into spontaneous labour on 31 March 1960. The foetal heart stopped suddenly in the first stage five and a half hours before delivery and she delivered a male stillborn infant with a swelling of the umbilical cord near the umbilicus.

Necropsy revealed no abnormality except that the cord contained a haematoma, 7 cm. long and 6 cm. in diameter, due to rupture of the umbilical vein, the aetiology of which could not be determined. The placenta was normal.

The patient has since had one normal infant.

* Senior Registrar, Royal Maternity Hospital, Belfast. At present Consulting Obstetrician and Gynaecologist, Mission Hospital, Trichur, South India.

Case 3

A woman aged 29 had an uneventful antenatal period and was admitted in the first stage of labour on her expected date of confinement. Foetal movements had ceased early in labour, and on her admission six and a half hours before delivery no foetal heart was heard. The cervix was dilated three fingerbreadths and no cord was

Case 3. Photograph showing swelling of the umbilical cord.

felt. Labour lasted 14 hours and the patient was delivered of a female still-born infant weighing 6 lb. 12 oz. (3,060 g.). The cord was coiled loosely once round the baby's neck and showed a swelling 5 cm. long near the umbilicus (see Fig.). Again necropsy showed the swelling to be a haematoma associated with rupture of the umbilical vein, and again the aetiology was obscure.

The patient has since had two normal children.

Discussion

The incidence of haematoma of the umbilical cord is approximately 1 in 5,500 deliveries (Toland *et al.*, 1959). Various aetiological factors have been suggested: syphilis,

mechanical trauma, anomalies of the umbilical veins or arteries (degenerative or congenital), short cords, cord around the neck, torsion of the cord, and ruptured membranes have all been incriminated. There is, however, no really adequate explanation.

According to Dippel (1940) haematomas of the cord are usually single and arise from the umbilical vein. They vary in size from "1.3 cm. to the size of a child's arm," and, although usually situated near the umbilicus, may be located anywhere along the cord. Browne (1925) remarks that "foetal death is as a rule not due to the amount of haemorrhage but to pressure by the clot upon the umbilical vessels, especially the umbilical vein, or to the formation of a coagulum in the lumen of the latter." While this is probably true for foetal death associated with small haematomata there is little doubt that with larger haemorrhages the foetus may be seriously exsanguinated.

The foetal mortality rate is reported to be 47%, the majority of deaths occurring in the first or second stage of labour.

Summary

Three cases of haematoma of the umbilical cord are described. This rare condition is often associated with foetal death, as in two of these three cases.

I am indebted to Mr. J. A. Price for permission to report the second and third cases, and to Professor J. H. M. Pinkerton for permission to report the first case.

REFERENCES

- Breen, J. L., Riva, H. L., and Hatch, R. P. (1958). *Amer. J. Obstet. Gynec.*, 76, 1288.
 Browne, F. J. (1925). *J. Obstet. Gynaec. Brit. Emp.*, 32, 17.
 Dippel, A. L. (1940). *Surg. Gynec. Obstet.*, 70, 51.
 Kretowicz, J. (1961). *Ginek. pol.*, 32, 455.
 Toland, O. J., Mann, H. J., and Helsel, C. M. (1959). *Obstet. and Gynec.*, 14, 799.

Preliminary Communications

Assessing the Comparability of Mortality Statistics

Brit. med. J., 1964, 2, 1437-1439

Large differences exist between the reported death rates from coronary disease and bronchitis of middle-aged men in the United States of America, the United Kingdom, and Norway (Reid, 1960). Mortality from bronchitis is allegedly very much higher in Britain than in the United States, where it is higher than in Norway. Conversely, the death rate for arteriosclerotic heart disease (A.S.H.D.) among middle-aged men in the United States is almost double the British rate, while the Norwegian rate is again the lowest of the three. If these differences are real they may provide important clues to the causes of these two important diseases. It may be, however, that they only reflect international differences in diagnostic habits and in concepts about the classification of the various forms of cardio-respiratory disorder. If this is so, then it is clearly important that the presence of such sources of confusion be recognized before any misleading conjectures about possible causes are based on these reports.

A number of studies have already been undertaken to test the accuracy of death certification in individual cases; for example,

by defining the clinical and post-mortem evidence underlying the statement of the cause of death (Swartout and Webster, 1940; Pohlen and Emerson, 1942, 1943; James *et al.*, 1955; Moriyma *et al.*, 1958; Heasman, 1962).

From the point of view of international comparisons, however, even if equal skill in the eliciting of clinical data of all kinds be assumed, there may remain differences between physicians, trained and practising in different countries, in their classification of these findings into diagnostic groups and their habits in certifying the underlying cause of death. Thus the underlying cause of death in a patient dying because of heart failure might be entered as bronchitis in one country but as arteriosclerotic heart disease in another. There is no published evidence on the diagnostic transfers to which such habits might lead. This note gives the results of an inquiry designed to develop and test a method by which future investigation of this problem might proceed.

METHOD

The case histories of a representative sample of hospital patients whose deaths had been ascribed to various cardiovascular-renal and respiratory causes were submitted to groups of doctors in three different countries with the request that they "certify" the cause of death according to their usual conventions.