said to be fatal except in hepatic cirrhosis (Thole, 1939). A vein graft may not be immediately available to repair such defects of the vein wall.

Operating upon dogs, Csillag *et al.* (1953) have successfully repaired 20-mm. defects of the portal vein by suturing a serosal covered loop of bowel over the defect. They think that this method may be life-saving in cases of traumatic defects of the great abdominal veins in humans.

We thank Mr. H. Gordon Ungley for permission to publish this case and for his help and advice in the preparation of this article, and Sir Gordon Gordon-Taylor for kindly allowing us to publish details of a personal case of portal vein injury and for helpful criticism.

J. W. EADIE, M.B., F.R.C.S.Ed.,
Senior Surgical Registrar.

R. H. THORLAKSON, M.D., F.R.C.S.,
Acting Senior Surgical Registrar.

Southend General Hospital.

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Intestinal Obstruction as a Late Complication of Fibrocystic Disease of Pancreas

The three main clinical types of fibrocystic disease of the pancreas were first clearly distinguished by Dorothy Andersen in 1938. They are: (1) intestinal obstruction in the newborn infant; (2) persistent respiratory disorders in the young baby; and (3) the "coeliac syndrome" with wasting, failure to thrive, and fatty stools in the young child.

The separation of the disorder into these three groups raises the interesting question why they tend to occur in different age groups, and especially why intestinal obstruction should be comparatively common in the neonatal period yet very rare later. In 18 of Bodian's (1952) 116 cases of fibrocystic disease of the pancreas neonatal obstruction (meconium ileus) occurred; yet in none of his case records is there a description of intestinal obstruction occurring after early infancy. In the literature describing some hundreds of cases I have been able to find only two instances of this complication. The first (Levy, 1951) was in an infant of 7 months on whom laparotomy was done; the tentative diagnosis of intussusception was not confirmed, and at the subsequent necropsy it was demonstrated that the intestinal obstruction had been caused by putty-like material blocking the small bowel. The second (Fisher, 1954) occurred at 15 months of age, and in this case the obstruction was relieved successfully by ileostomy and pancreatin therapy.

The following report describes a case in which intestinal obstruction, occurring at 16 months, was overcome by medical treatment.

CASE REPORT

A baby girl was first admitted to hospital at 9 weeks with a history of failure to thrive despite her good appetite. She was the second child of healthy parents whose first child had died at 2 years from "pneumonia and coeliac disease." The diagnosis of fibrocystic disease of the pancreas in the present case was made from the typical clinical appearance, and was confirmed by the absence of trypsin from specimens of faeces and duodenal juice. She was discharged home, much improved, at 3½ months on a dried milk

preparation with pancreatin granules, 10 gr. (0.65 g.) before each of five feeds daily. With only one mild and temporary relapse at 5½ months, when the dosage of pancreatin was increased, she remained well until her present admission to hospital at the age of 16 months.

The recent history was of mild upper respiratory infection two weeks before admission, when the child seemed "off colour" and lost her appetite. Two weeks later she became absolutely constipated and had one small food vomit. Because of the anorexia no further pancreatin was given by her mother. The following day two very small hard lumps of faeces were passed, but two days later glycerin suppositories and two enemata produced no faeces or flatus and she was then admitted to hospital.

On examination she was a rather underweight and irritable child with bouts of abdominal pain. The abdomen was distended and resonant, with audible bowel sounds but no visible peristalsis. A mass was palpable in the right iliac fossa, rather vague in outline and doubtfully indentable. The rectum was empty and no blood or mucus was passed. A barium enema showed a filling defect in the caecum, thought to be either a faecal mass or, less probably, an ileocolic intussusception. As the patient's general condition was good, it was decided to keep her under observation for some hours. On the following morning she started to vomit large quantities of dark brown fluid, and hourly gastric aspiration with intravenous glucose and saline drip was instituted. Laparotomy was now decided upon, but was postponed until adequate hydration had been restored. That evening a small amount of flatus was passed per rectum and operation was further postponed. Olive oil enemata were given four-hourly, alternating with oral pancreatin, 40 gr. (2.6 g.) four-hourly, and were well tolerated throughout the night. Next day five dark yellow sticky stools were passed, with consequent relief of abdominal distension. Oral fluids were now tolerated and intravenous infusion was discontinued. A course of chlortetracycline was given for the respiratory infection. She continued to have three or four soft stools each day, and her recovery thereafter was uneventful.

COMMENT

In this case of fibrocystic disease of the pancreas early acute intestinal obstruction occurred at 16 months. It was evidently caused by inspissation of small-bowel contents and is presumed to have been due to the omission of pancreatin during an acute infection. This state of affairs is symptomatically analogous to meconium ileus in the newborn. One wonders if there is some difference between faeces and meconium to account for the markedly different incidence of intestinal obstruction in neonates and in older children; and, also, what part pancreatin does in fact play. It appears from the three reported cases that in inadequate dosage it may precipitate obstipation, and yet some children with fibrocystic disease of the pancreas do not obstruct although they have never had pancreatin.

The necessity for surgery in these cases seems to depend on the evidence for and against intussusception. In our case there had been no blood passed per rectum and the x-ray appearances were more typical of faecal obstruction than of intussusception. The child's good general condition allowed us to temporize, and a medical regime of oral pancreatin and oil enemata rapidly relieved the obstruction.

I am grateful to Dr. John Apley for permission to publish this case and for all his help.

E. LESLIE BIRSE, M.B., D.C.H.

Late Senior Resident Officer, Bristol Royal Hospital for Sick Children.

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