

## Case 59 Neonatal intestinal obstruction



Figure 59.1

*This specimen is a segment of terminal ileum removed at emergency surgery on a severely ill premature baby with intestinal obstruction (Fig. 59.1). The lower end of the specimen has been cut across so that you can see the lumen of the bowel and its contents.*

### Can you make a diagnosis of the cause of the obstruction?

This shows the typical appearance of a fairly rare condition. The cut end of the ileum shows that it is blocked by a mass of inspissated meconium. The bowel immediately proximal to this can be seen to be distended with this material, like a sausage, while the piece of ileum above this, although distended, does not contain meconium. This condition is termed meconium ileus.

### What is the underlying pathology that accounts for this condition?

This used to be the neonatal presentation of 10–15% of infants with cystic fibrosis until the advent of neonatal screening. Because of the loss of secretion of intestinal mucus and blockage of the pancreatic ducts, with consequent loss of tryptic digestion, the lower ileum of the fetus becomes blocked with inspissated sticky meconium.

### What is the typical X-ray appearance of the abdomen in this condition?

There are distended loops of small intestine containing meconium with a characteristic mottled 'ground glass' appearance.

### What may happen to the obstructed segment of intestine?

Perforation of the bowel may occur in intrauterine life, producing a (sterile) meconium peritonitis. The impacted distended segment of intestine may develop areas of gangrene from pressure necrosis. Both these complications, of course, greatly increase the morbidity and mortality of this disease.

### How is this condition treated?

It may be possible to clear the inspissated plugs of meconium by instillation of Gastrografin (a water-soluble, radio-opaque contrast agent) per rectum under X-ray control. If this fails, or if the bowel has perforated, surgery is required. It may then be possible to open the intestine and remove the inspissated meconium by lavage, but if the impacted bowel cannot be cleared or shows areas of gangrene, as in this case, or has actually perforated, then resection is required.