Despite the potential for sarcoidosis to involve any organ system, gastrointestinal manifestations of the disease are distinctly unusual. The stomach is the most frequently affected alimentary organ (1, 2), with involvement of the esophagus (3), small bowel (4–6), and colon (7) being very rarely reported. Hepatic granulomas are common, but overt liver disease seldom develops. Pancreatic (8–11) and biliary tract (12) sarcoidosis may also occur. Complications include hemorrhage (6), obstructive jaundice (10, 13), pancreatitis (14), appendicitis (15), and protein-losing enteropathy (16). We report a patient in whom sarcoidosis led to repeated episodes of biliary and duodenal obstruction. We are unaware of previous reports in the English language of small bowel obstruction secondary to sarcoidosis.

CASE REPORT

A 47-year-old black male was hospitalized in September 1987 after a week of abdominal pain and emesis. He had lost 10 lb over the preceding two months and had recently noted dark urine. Sarcoidosis was diagnosed 10 years earlier, with findings of dyspnea, pulmonary interstitial disease, hilar and cervical adenopathy, cutaneous lesions, and uveitis, and was confirmed by transbronchial biopsy. His symptoms were controlled with prednisone, which was discontinued in 1985.

Admission biochemical tests showed a total bilirubin of 10 mg/dl, SGOT of 105 IU/liters, and an amylase of 1310 IU/liter. The pancreas was enlarged by ultrasound. Percutaneous cholangiography demonstrated smooth narrowing of the distal common bile duct. Brush biopsies and cytology of the stricture showed no evidence of malignancy. The jaundice resolved with percutaneous internal biliary drainage, and he was discharged with the tube in place.

Two weeks later, he was readmitted with epigastric pain and vomiting. Upper gastrointestinal x-rays showed extrinsic compression of the second and fourth portions of the duodenum. Celiac and mesenteric angiography was normal. At laparotomy, the head of the pancreas was noted to be firm, and the areas of duodenal narrowing were "bound down" by inflammatory tissue. Splenomegaly was noted. The gallbladder was distended, but no stones were found at cholecystectomy. A T-tube, drain aging gastrostomy, and feeding jejunostomy were placed. Biopsies of the pancreatic head showed chronic pancreatitis, and multiple peripancreatic lymph nodes contained noncaseating granulomata. He was discharged taking prednisone 5 mg daily with a diagnosis of chronic sarcoidosis.

Several weeks later the tubes were clamped. Vomiting and abdominal pain promptly recurred. A CT scan showed enlargement of the head of the pancreas. Upper gastrointestinal x-rays demonstrated an annular constriction of the fourth portion of the duodenum, which was not reached by endoscopy. He was transferred to Thomas Jefferson University Hospital on December 4, 1987. During the previous four months, he had lost 40 lb. Abdominal examination was notable only for the gastrostomy, jejunostomy, and T-tubes. A chest x-ray revealed diffuse pulmonary scarring, multiple small nodules, and tracheal deviation, attributed to adenopathy. The serum amylase was 175 IU/liter, alkaline phosphatase 278 IU/liter, SGOT 43 IU/liter, and total bilirubin 0.8 mg/dl. Barium contrast studies and endoscopy both demonstrated extrinsic compressions at the second and fourth portions of the duodenum; mucosal biopsies from these sites were normal. The prednisone dose was increased to 40 mg daily, and he subsequently tolerated clamping of the gastrostomy and jejunostomy tubes. Repeat cholangiograms and alkaline phosphatase were normal, and the


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SARCOIDOSIS AND DUODENAL OBSTRUCTION

T-tube was removed. He was discharged on prednisone 20 mg twice a day.

He gained 20 lb during the following two months, and the prednisone dose was subsequently reduced to 20 mg/day. In July 1988, after several weeks of postprandial emesis, he was readmitted. Upper gastrointestinal x-rays (Figure 1) and CT both showed circumferential thickening in the second portion of the duodenum, and thickening and narrowing of the distal third portion. The head and body of the pancreas were enlarged on ultrasound examination, and the common hepatic and pancreatic ducts appeared dilated; however, the liver biochemical tests remained normal. Endoscopy revealed extrinsic compression of the gastric antrum and two areas of the duodenum, biopsies of which showed chronic inflammation with an intact mucosa. At laparotomy, an inflammatory mass involving the second and fourth portions of the duodenum was found and bypassed by gastrojejunostomy. Biopsy of a periduodenal lymph node revealed only sclerosis. Prednisone was increased to 40 mg/day. Postoperative radiographs failed to demonstrate patency of the gastrojejunostomy, and endoscopy was repeated with complete resolution of duodenal obstruction, which was confirmed on subsequent radiographs (Figure 2).

DISCUSSION

Intraabdominal manifestations of sarcoidosis are rare. When gastrointestinal dysfunction occurs, it is typically a consequence of granulomatous organ infiltration or an effect of mechanical compression by enlarged lymph nodes. The clinical picture is