**Introduction**

Food impaction in duodenal diverticula is frequent, but it is rare (never reported in literature) the obstruction of biliary stents inserted for Klatskin's tumor by a juxtapapillary duodenal diverticulum (JDD) filled with a food bezoar.

We describe the first case of stent obstruction by bezoar impaction in a juxtapapillary duodenal diverticulum, probably as a result of habitual ingestion of large amounts of vegetables.

**Case report**

A 72-year-old man affected by Klatskin's tumor, stented after endoscopic retrograde cholangiopancreatography (ERCP) and endoscopic sphincterotomy 1 month ago, presented with fever,
Juxtapapillary duodenal diverticular bezoar as an exceptional cause of biliary stent obstruction. Case report

epigastric pain, nausea and vomiting since 5 days. The pain was intermittent, not related to food and radiated to the back. He had not undergone any previous biliary surgery.

On examination the abdomen was neither tender nor distended and bowel sounds were normal. Initial plain abdominal X-ray confirmed the presence of two plastic stents (Fig. 1).

Blood chemistry confirmed cholestasis and abdominal ultrasonography (US) showed biliary tree dilatation. ERCP showed that the distal part of two plastic stents in left and right bile ducts was conglomerated and obstructed by a food bezoar filling a juxtapapillary duodenal diverticulum; the bezoar appeared as a green-yellowish pasty mass of concretions that protruded out into the duodenal lumen, obscuring the papilla and the distal part of stents (Figs. 2-4).

The bezoar was fragmented and removed by Dormia basket and the diverticulum was washed with saline solution (Fig. 5).

Cholangiography confirmed the hilar stenosis; there were no gallstones or other potential causes of obstruction stent (Fig. 6). The two prostheses were removed and substituted with two Amsterdam type plastic stents (10 French, 10 centimeters); the bile flow was restored (Figs. 7-10).

The ulcerior course was uncomplicated and the patient was discharged.

He died after 1 year follow-up for neoplastic cachexia.

**Discussion**

A duodenal diverticulum appears in 2.5% of upper gastrointestinal examinations and up to 22% of ERCP and autopsies. Most of these patients are asymptomatic, but the lesion is occasionally associated with bleeding, inflammation, perforation, obstruction of the duodenum or biliary-pancreatic duct (or both), fistula formation in the bile duct, and bezoar formation inside the diverticulum.

Great majority of duodenal diverticula are asymptomatic (1) and clinical presentation may be characterized by non-specific abdominal symptoms and less than 5% of patients have abdominal symptoms. Abdominal discomfort is usually located in epigastrium, right upper abdomen or umbilical area which is made worse or brought on by eating and relieved by vomiting, belching or assuming certain posture (2).
In literature, JDD are associated with advanced age, a technically more difficult ERCP, a higher bleeding rate after endoscopic sphincterotomy and a higher frequency of bile duct stones, recurrent common duct stones, and gallbladder stones; the presence of JDD was not noted to significantly increase the risk for developing acute or chronic pancreatitis, but it is not mentioned the relation between stent obstruction, bezoar formation and JDD (3, 4).

To date, most reports on the stent endoprosthesis in biliary cancer have described small series and stressed simply the initial success rate of the endoprosthesis insertion but, to our knowledge, no studies have systematically analyzed the nature, frequency, and treatment of complications (5, 6); the only 4 cases reported over 200 stent obstruction from 1998 to 2004 are based on observation that duodenal-choledochal reflux of solid food may cause a ‘biliary bezoar’ and lead to obstruction of metallic stents in subjects with vegetable diet and minimal water intake (7).

Conclusions

Biliary bezoar is a very rare but treatable cause of stents obstruction in patients with juxtapapillary duodenal diverticulum. ERCP is helpful in making diagnosis and for resolutive treatment.

Recognition of this condition is important as stent obstruction occurs early.

We argue that it may be more common cause than is presently realized.

References