Carcinoma Gall Bladder with Bouveret's Syndrome: A Rare Cause of Gastric Outlet Obstruction

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Received: 20 June 2009 / Accepted: 28 June 2009 / Published online: 23 November 2010
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Abstract We describe a case of bouveret's syndrome associated with carcinoma gall bladder. This is probably the second reported case of such an association. Computed tomography detected the calculus in the duodenum but endoscopy could not retrieve it. Open gastrojejunostomy and stone retrieval was done.

Keywords Bouveret's Syndrome · Carcinoma gall bladder · Gastric outlet obstruction

Introduction

Gastric outlet obstruction secondary to an impacted gallstone is a rare presentation. Old aged females are generally effected, however its association with carcinoma gall bladder is very rare [1]. We describe such a rare case.

Case Note

A 43 year old female was admitted to our hospital with history of non-bilious vomiting for fifteen days. On

examination she was an average built Indian female, with mild pallor. Her abdominal examination was unremarkable. Abdominal ultrasound examination showed an irregular mass in the Gall bladder fossa with contiguous infiltration to the liver bed. The gall bladder was free of any echogenic material however an echogenic area was seen below the gall bladder which was interpreted as an enlarged lymph node. Computed tomography of abdomen showed a gall bladder mass with infiltration into the liver bed. A hypoechoic area was also seen in the segment VIII of liver. A calculus of 1.75 cm with central calcification was seen in the first part of the duodenum with evidence of gas in the biliary system (Fig. 1). Upper Gastro-intestinal tract endoscopy showed a calculus obstructing the first part of duodenum with surrounding inflammatory changes in the duodenal mucosa. Endoscopic efforts to dislodge the calculus failed. Ultrasound guided fine needle aspiration of the mass revealed adenocarcinoma. As the stone could not be dislodged endoscopically a palliative gastrojejunostomy was done and the calculus milked out through the gastrostomy rent. Patient was put on chemotherapy for advanced carcinoma gall bladder.

Discussion

Bouveret's syndrome is a rare condition (1/10000 cholelithiasis) [1] characterized by gastric outlet obstruction secondary to an impacted gallstone in the duodenal bulb [2]. Described by Beaussier in 1770, the syndrome was named after the French physician, Leon Bouveret 1896. The proximate cause of this obstruction is a fistula, which develops after the inflamed gallbladder becomes adherent to its common anatomic resting place, the superior portion of the postbulbar duodenum [3]. Female geriatric population around 65–75 years is primarily effected [1]. Its

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Fig. 1 Computed tomography showing the calculus with central calcification in the duodenum. The hypoechoic mass in gall bladder fossa is also seen

association with carcinoma gall bladder is even rarer. Our patient probably was harbouring the gall stone for a long time. Chronic inflammation and metastatic carcinomatous infiltration was associated with fistulization. The calculi which had travelled to the duodenum through the cholecystoduodenal fistula had caused acute gastric outlet obstruction in the partially compromised duodenum secondary to the gall bladder mass.

Ninety percent of gallstones that enter the intestinal tract through a biliary-enteric fistula pass out without causing symptoms [2]. When obstruction does occur, the least common site is the proximal duodenum or pylorus [2]. Rigler's triad (bowel obstruction, pneumobilia and ectopic gallstone) may suggest the diagnosis. Use of oral contrast medium in CT improves delineation of an isodense gallstone [2] as in our case. It may also depict the biliary enteric fistula. Pickhardt et al described the use of magnetic resonance cholangiopancreatography in the diagnosis of Bouveret's syndrome, particularly where the gallstone is isodense to bile or fluid [2].

Endoscopy is a good option for treatment considering the surgical morbidity. Literature review reveals several reports of endoscopic therapy and extracorporeal shockwave lithotripsy followed by removal of the stone fragments. Intra-corporeal electrohydraulic lithotripsy and endoscopic laser lithotripsy have also been described [2]. However endoscopy is rarely therapeutic, because it is difficult to dislodge and retrieve the large impacted stone, hence surgery is required in over 90%

of cases which is associated with high (19% to 24%) mortality rates [4]. Surgery remains the main procedure in particular situations such as stone impaction in the fistula, stone compression of the duodenal wall, GI haemorrhage and after improper stone manipulation [1]. Calculi above 4cm and severe inflammatory changes are severe contraindication for an endoscopic treatment [1]. Surgical options include a single-staged enterolithotomy (or gastrotomy) with concomitant cholecystectomy and repair of the fistula or an enterolithotomy alone with or without a second-stage cholecystectomy [1, 5]. Disturbing the gall bladder is controversial as the recurrence of gallstone ileus following enterolithotomy alone is rare, and complications related to the persistence of a cholecystoenteric fistula are unusual [6].

New radiological and endoscopic techniques have made pre-surgical diagnosis possible in most cases and the death rate has dropped dramatically [1]. "One-stage surgery" should be still considered as the preferred option for the treatment of gallstone ileus [1]. Endoscopic disimpaction should be attempted [4, 6] and may challenge surgery as first line treatment in future.

Carcinoma gall bladder with bouveret's syndrome is very rare. Hence no definite protocol is advocated. However like in our case these cases need management of the primary problem "obstruction" by either endoscopy or open surgery along with palliative management for the malignancy which is in an advanced stage.

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