Interesting image

Bouveret’s syndrome on FDG PET/CT: A rare life-threatening complication of gallstone disease

El síndrome de Bouveret en FDG PET/TC: Una complicación rara y potencialmente mortal de la enfermedad de cálculos biliares

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A 70-year-old female patient was admitted to our hospital with right upper quadrant pain, nausea and vomiting. An abdominal ultrasonography was requested. It revealed multiple gallstones in the gallbladder and a mass in the cecum (not shown). A colonoscopy was performed and the lesion in the cecum was biopsied. The histopathologic examination of the lesion was reported as adenocarcinoma. The patient was referred to FDG PET/CT for initial staging. Besides hypermetabolic mass in the cecum and neighbouring enlarged lymph nodes, it also showed dilated gallbladder and intra/extrahepatic biliary ducts, gallstone in the gallbladder and dilated stomach (Fig. 1A and B). When carefully examined, another gallstone with accompanying hypermetabolic wall thickening was seen in the lumen of the descending duodenum (Fig. 1C). The impacted stone in the duodenum caused partial obstruction and dilatation of the stomach which was consistent with Bouveret’s syndrome. The follow-up contrast enhanced CT scan of the abdomen also demonstrated dilated gallbladder and biliary ducts and gallstones in the gallbladder and in the lumen of the duodenum (Fig. 1D). Gallstone ileus is a form of small bowel obstruction which is caused by impaction of one or more gallstones after they have migrated through a cholecysto-enteric fistula.1 Obstruction at the level of the gastric outlet by a gallstone is defined as Bouveret’s syndrome.1 Bouveret’s syndrome is very rare and comprises only 1–3% of the cases.1−3 It is usually seen in elderly female patients.1−3 Nausea, vomiting, abdominal pain, haematemesis, recent weight loss, anorexia, constipation, melena, pyrexia and obstructive jaundice are the most common presenting signs and symptoms.1,2 The existence of pneumobilia, the demonstration of duodenal obstruction, dilated stomach and cholecysto-duodenal fistula, visualization of gallstones by radiography, ultrasonography or CT can aid in the diagnosis.1 Advanced age of patients, associated comorbidities, insidious clinical presentation and lack of specific signs cause high mortality rates for this syndrome.1,3 In our case, the gallstone in the duodenum caused partial obstruction due to its
Besides hypermetabolic mass in the cecum (arrows in A: axial PET, CT and fusion PET/CT images, SUVmax = 11.1) and neighboring enlarged lymph nodes, initial staging PET/CT also showed dilated gallbladder (large white arrow in B: non-contrast enhanced CT of the PET/CT) and intra/extrahepatic biliary ducts (black arrow in B), gallstone in the gallbladder (small white arrow in B) and dilated stomach (star in B). When carefully examined, another gallstone with accompanying hypermetabolic wall thickening was seen in the lumen of the descending duodenum (arrow heads in C: axial PET, CT and fusion PET/CT images, SUVmax = 4.7). The follow-up contrast enhanced CT scan of the abdomen also demonstrated dilated gallbladder (large white arrow in D) and biliary ducts (black arrow in D) and gallstones in the gallbladder (small white arrow in D) and in the lumen of the duodenum (arrow head in D).

small size. However, the larger stones may lead to serious complications which may require urgent surgical interventions. In addition to familiarity of physiologic and pathologic patterns of bowel FDG uptake, careful correlation of any FDG uptake with CT portion of the combined PET/CT examination is recommended to identify this rare life-threatening complication of gallstone disease.

Conflicts of interest

The authors have no conflicts of interest to declare.

References