Case 6088

Adenocarcinoma of the papilla of Vater: imaging workup

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Authors: Medakovic P1, Tadic M2, Hrkac Pustahija A3, Curic J3 1 Sunce Polyclinic, Trnjanska cesta 108, mail: eranio@gmx.at 2 Clinical Hospital Dubrava, Department of Gastroenterology 3 Clinical Hospital Dubrava, Department of Radiology
Patient: 69 years, female

Clinical History:

Patient was admitted to the hospital because of nausea and epigastric pain, especially after the meal, loss of appetite, jaundice of the skin and conjunctiva, and pruritus during the last month and a half. Five years ago patient underwent cholecystectomy.

Imaging Findings:

During the interrogation she denied lost of weight. Blood tests detected bilirubin 106 micromol/l, AST 155 U/L, ALT 177 U/L, AP 370 U/L, GGT 710 U/L, CA 19-9 231 U/mL. The sonography of abdomen (US) showed hyperechoic liver, dilatated d. choledochus up to 16 mm, the body and the head of the pancreas could not been visualized due to strong meteorism. The multislice computer tomography (MSCT) of abdomen showed a fatty infiltration of the liver and dilatated bile duct. During the late artery phase in the region of the papilla 1.5x1 cm large, hypervascular mass with infiltration of the duodenal and distal part of the common bile duct wall was revealed. No signs of pancreatic head infiltration, focal liver lesions or abdominal and pelvic lymph node enlargement were found. Endoscopic ultrasound (EUS) revealed in the region of the papilla 19x12 mm large, hypoechoic mass with subsequent dilatation of the common bile duct and main pancreatic duct. The infiltration of the anterior common bile duct wall is also clearly seen. EUS revealed also a couple of lymph nodes (LN) near the mass structure and one celiac LN around 1 cm in diameter. Endoscopic retrograde cholangiopancreatography revealed edematous papilla with the partial obstruction of duodenum and dilatated common bile duct. Mucosa around the orificium was necrotic and vulnerable. Histopathological diagnosis revealed displastic changes of cylindrical mucosa grade II-III. Whipple procedure was performed and histopathological examination of the resected specimen revealed adenocarcinoma of the papilla of Vater without local lymph node metastases.

Discussion:

Carcinoma of the papilla of Vater represents about 1% of all epithelial malignancies and 5% of all carcinomas in the gastrointestinal tract (1). Lymph node or other metastases are present at the time of surgery in approximately 20% of cases, and the 5-year survival rate following surgical therapy in this group is only 5-10% (2). In the absence of metastases, radical pancreaticoduodenectomy (the Whipple procedure) is associated with 5-years survival rates as high as 40% (2). The clinical and biochemical presentation of carcinoma of the papilla of Vater and carcinoma of the pancreas are very similar, and detailed investigations are required to distinguish between them. The most common symptoms are: abdominal pain, vomitus, anemia, jaundice, pancreatitis and cholangitis due to bleeding and tumor obstruction of the bile and pancreatic ducts. The purpose of this case publication is to select the clinical, biochemical
and imaging methods that would most efficiently discriminate the precise site of tumor origin. In our case transabdominal ultrasound was not able to detect a mass in upper abdomen, and was inferior method comparing with MSCT-scan. MSCT-scan detected periampullary mass but was not able to distinguish the precise site of tumor origin. MSCT-scan did not detect any kind of nodal enlargement. We used EUS to define the depth of tumor infiltration, formation and lymph node enlargement. The accuracy of EUS in assessing T1 carcinomas is reported to be 60%, whereas the accuracy is 92.2% in T2 carcinomas (3). Overstaging is reported to occur in as many as one third of T1 lesions which is often due to inflammatory edema of the submucosa or from associated pancreatitis (3). Severed studies have reported an overall accuracy rate of EUS of 78-90.6% (3). EUS is helpful in depicting lymph node metastases but is not always accurate in defining the nonmetastatic nature of lymphadenopathy (3). Compared with MSCT, EUS is superior method for tumor detection and staging but equivalent for nodal staging of carcinoma of the papilla of Vater. Neither US nor MSCT nor EUS cannot deliver histopathologic diagnosis. In controlled, prospective studies, methods such as hypotonic duodenography, MSCT, MRI, MRCP and US were significantly inferior to endoscopic diagnosis (3). We used ERCP to show and define the pancreatic and common bile duct involvement. Furthermore the advantage of ERCP is a possibility of histological diagnosis. ERCP cannot be the method of choice for nodal staging. In terms of treatment the decision between endoscopic and surgical excision is determined by size, location and depth of the lesion (3). A Whipple-Kausch procedure is used for radical excision and is an adequate treatment in patients with carcinoma of the papilla of Vater. A standard surgical procedure for adenomas of the papilla has so far not been established; however the radical surgical approach is also recommended in some early forms of cancer because in T1 carcinomas, lymph node involvement occurs in up to 20% of cases (2,3).

**Differential Diagnosis List:** Adenocarcinoma of the papilla of Vater

**Final Diagnosis:** Adenocarcinoma of the papilla of Vater

**References:**


Description: Hypervascular mass in the region of the papilla of Vater (arrow)

Origin:
Figure 2

(a)

Description: Infiltration of the anteromedial wall of the common bile duct (arrow)

Origin:
Description: Coronal reformated image shows hypervascular mass (large arrow) in the region of the papilla with duodenal wall infiltration (small arrow) and subsequent common bile duct (cbd) and main pancreatic duct (mpd) dilatation. Origin:
Figure 4

**Description:** Infiltration of the anteromedial wall of the common bile duct

**Origin:**
Description: Hypoechoic mass (TM) in the region of the papilla with subsequent dilatation of the common bile duct (CBD) and main pancreatic duct (PD) Origin: