



Duodenal Papilla Schwannoma: Performance of Duodenal Papilla Local Excision

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Abstract

Background: Schwannomas are benign neoplasms that originate from Schwann cells of the neurilemma. They are rarely seen in the digestive tract and are difficult to biopsy. Therefore, advanced diagnoses are very difficult.

Materials: We describe a duodenal papilla mass that underwent papilla local excision. Postoperative pathology indicated that the tumor was micro-capsule/reticular schwannoma. However, Common Bile Duct (CBD) stones occurred after the surgery.

Results: The patient was cured after the Choledochojunostomy was performed lived without tumor recurrence or any discomfort for 4 years.

Conclusion: It is the first report that schwannoma is found in duodenal papilla and local resection may be an appropriate way to be selected. Correct postoperative guidance could improve the success rate of surgery.

Keywords: Duodenal papilla; Schwannoma; Local excision

Case Presentation

A 57-year-old woman was transferred to the internal medicine department. Her initial symptoms were discontinuous chest distress and upper abdominal discomfort after activity for 1 year. Profuse sweating and weakness accompanied the symptoms. There was no abdominal tenderness. Electrocardiogram, myocardial enzyme, liver and renal functions and hemodiastase were normal. Complete blood tests showed abnormalities (white cells $3.48 \times 10^9/L$ [$3.5-9.5 \times 10^9/L$]; hemoglobin 96 g/L [$115-150$ g/L]; red cells $3.51 \times 10^{12}/L$ [$3.8-5.1 \times 10^{12}/L$]; platelets $691 \times 10^9/L$ [$125-350 \times 10^9/L$]). Discomfort was relieved following administration of a Proton Pump Inhibitor (PPI). Magnetic Resonance Imaging (MRI) revealed an anomalous mass in the duodenal vater (size 22×19 mm) and intra- and extrahepatic mild cholangiectasis. The tumor was obviously demarcated and mildly enhanced (Figure 1). She was then transferred to the general surgery department.

Based on her medical history, we found that she had upper abdominal discomfort 5 years prior. The duodenal papilla tumor was verified using a gastroscope (size 20 mm), and partial gastrectomy and gastroenterostomy were applied in the local hospital; however, the discomfort was not significantly relieved. The size of tumor showed no obvious changes over 5 years. Hence, duodenal papilla local excision was performed considering its benign characteristics. Plasty of the Common Bile Duct (CBD) and pancreatic duct were performed. A T-shaped tube was placed in the common bile duct and removed 3 months after the operation. Postoperative pathology demonstrated that the tumor was a duodenal papilla micro-capsule/reticular type schwannoma (Figure 2). However, CBD stones occurred 2 months after the T-shaped tube was removed, and Choledochojunostomy was ultimately performed 10 months later. At 4 years since the last surgery, the patient now lives without tumor recurrence or any discomfort.

Discussion

Schwannomas are uncommon benign tumors that arise from Schwann cells in neural sheaths [1]. They rarely occur in the gastrointestinal tract and are difficult to identify in Gastrointestinal Stromal Tumors (GISTs) and other mesenchymal tumors in the gastrointestinal tract [2]. Most gastrointestinal Schwannomas are reported in the stomach, and those of intestinal origin undergo local resection due to their innocuous biological behavior, but they seldom occur in the duodenal

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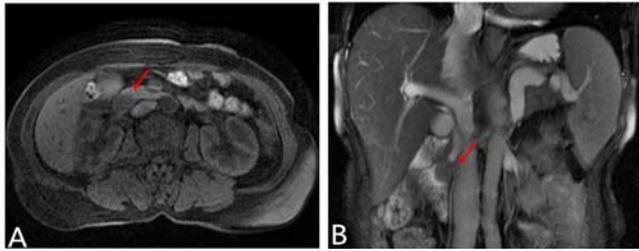


Figure 1: Abdominal MRI showed the tumor size was 22 mm x 19 mm (A) and the location was in duodenal papilla (B).

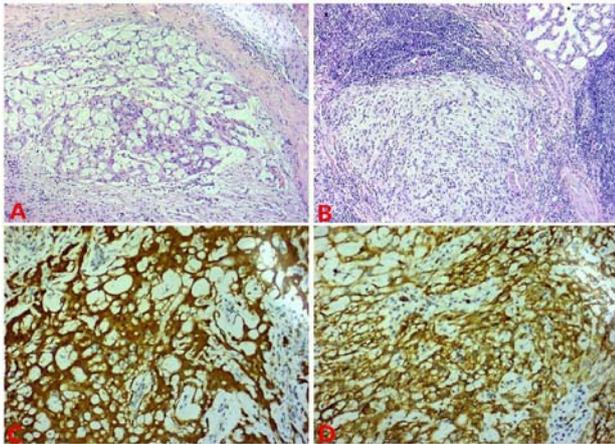


Figure 2: (A) Microscopically, tumor tissue showed micro-capsule/reticular structure formed by spinal cells. (B) Cells arranged as labyrinthine structure (hematoxylin and eosin stain, x200). (C) Immunohistochemically, tumor cells showed an extensive positive reaction to S-100 protein, and positive for CD34 (D).

region. There have been no reports of duodenal papilla schwannoma to date. The main symptoms are digestive bleeding and upper abdominal discomfort. Endoscopy, Computed Tomography (CT) and MRI are commonly used for diagnosis of the tumor location, size and relationship with the surrounding tissue. However, preoperative pathologic diagnosis by endoscopic biopsy is difficult to accomplish because of its subepithelial specifications [3-5].

This is the first case demonstrating the presence of a schwannoma in the duodenal papilla. In this case, the tumor was discovered using a gastroscope and underwent duodenal exclusion by gastroenterostomy during the first surgery. The surgeon might consider pancreaticoduodenectomy inordinate for this benign tumor. However, duodenal papilla is still compressive due to its

mass and shows mild extension of the intra- and extrahepatic bile duct. The patient experienced upper abdominal pain. Before the second operation, the tumor was assessed and showed no significant development and metastasis. Local excision was a correct therapeutic strategy [6]. The occurrence of CBD stones might be attributed to the early removal of the T-shaped tube. In addition, medicine such as ursodeoxycholic acid may prevent the development of choledocholithiasis.

Conclusion

We report a very rare duodenal schwannoma located in the papilla of the vater. A definite preoperative diagnosis is difficult to achieve, but the non-progressive biology of the tumor was confirmed from the medical history and MRI and gastroscopy. Non-resection surgery is not recommended compared with local excision. However, treatment after the surgery and removal of the T-shaped tube are equally important for the recovery of patients. Our case highlights a rare schwannoma in the duodenal papilla, the therapeutic process and the complications after surgery to provide a reference for the future treatment of duodenal papilla tumors.

Contributors

Qiankun Luo performed the literature search and prepared the manuscript and figures. Zhigang Pang and Xinjiang Liu performed the surgery. Guiming Hu obtained the photographs and pathology pictures. Written consent to publish was obtained.

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