Schwannoma of common bile duct causing obstructive jaundice

Suresh Parameshwarappa · Gabriel Rodrigues · Sampath Kumar · Basavaraj Patil · Manna Valliathan

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Abstract Benign schwannomas arise from neural crest-derived Schwann cells. Schwannomas occurring in the biliary tract become clinically symptomatic due to their compression on the extra hepatic biliary tract causing obstructive jaundice. Their preoperative diagnosis is extremely difficult. We report a 38-year-old male who presented with pain abdomen and jaundice. Computed tomography of abdomen showed extra luminal compression of common bile duct (CBD) possibly by a lymph nodal mass. Resection of the CBD, gall bladder and the mass compressing the CBD with Roux-en-Y hepaticojejunostomy was performed. The final histopathology was reported as a schwannoma.

Keywords Schwannoma · Extrahepatic · Common bile duct · Obstructive jaundice

Introduction

Obstructive jaundice usually results from either intrinsic causes (gallstones, neoplasms or inflammatory disorders of the biliary tract and pancreas) or due to extrinsic compression of the extra hepatic biliary tract (lymph nodes, tumors). Schwannomas are benign tumors that commonly occur in the soft tissues of the head and neck, extremities and retroperitoneum [1]. Very rarely they are known to arise from the CBD causing obstructive jaundice. A definite diagnosis of a schwannoma of CBD is always by histopathological examination. This report assumes importance as there is only a sparse literature available when a thorough search has been done on PubMed, MEDSCAPE and EMBASE on a schwannoma arising from the extra hepatic bile ducts [2, 3]. Moreover this is an extremely rare condition, has ample difficulty in its diagnosis and an atypical site of presentation.

Case report

A 38-year-old male presented with right upper abdominal pain, loss of weight and appetite of 8 months duration and jaundice since 2 months. He had itching all over the body, was passing high colored urine and pale colored stools. There was no history of fever with chills or rigors. On examination, icterus was present and there was tenderness over right hypochondrium and epigastric regions. There was no hepatomegaly or a palpable gall bladder. Laboratory investigations showed total bilirubin: 7.4 mg/dl, direct bilirubin: 4.3 mg/dl and alkaline phosphatase: 567 U/L. A contrast enhanced computed tomography (CECT) of the abdomen was performed which showed a heterogeneously enhancing mass in the region of mid CBD with extrinsic

S. Parameshwarappa¹ · G. Rodrigues¹ · S. Kumar¹ · B. Patil¹ · M. Valliathan²

¹Departments of Surgery,

²Departments of Pathology,

Kasturba Medical College,

Manipal University, Manipal, India

G. Rodrigues (✉)

E-mail: gabyrodricks@gmail.com

compression and mild intrahepatic biliary radical dilatation (IHBRD) (Fig. 1). Possibilities of a lymph nodal mass or exophytic gastrointestinal stromal tumor (GIST) causing external compression were suggested. Hence patient underwent an exploratory laparotomy which revealed an exophytic mass arising from the mid CBD wall, 3 cm × 3 cm in size and was extending from the junction of cystic duct and CBD to just 1 cm above the 1st part of the duodenum. Excision of mass with CBD, gall bladder and Roux-en-Y hepaticojejunostomy was performed. The postoperative period was uneventful. Histopathology was reported as schwannoma arising from CBD (Figs. 2, 3). After 1 year of follow-up there is no clinical or biochemical evidence of obstructive jaundice.

Fig. 1 CT scan of abdomen showing lesion at the CBD causing compression (arrow)

Fig. 2 Photomicrograph showing neural tumor and adjacent tall columnar CBD lining epithelium (black arrow, haematoxylin and eosin stain ×40)

Fig. 3 Photomicrograph showing intersecting whorls and fascicles of spindle cells with Verroca body formation (haematoxylin and eosin stain ×100)

Discussion

Schwannoma is a benign myelin sheath tumor, with absolutely no malignant potential and commonly occurs in the soft tissues of the body [1]. Schwannomas arising in the digestive tract though rare, occur most commonly in the stomach, followed by the colon and rectum [2]. Peripheral nerve sheath tumors represent 2–6% of GIST [4]. Schwannomas of the biliary tract are extremely rare and occur because of an abundant network of sympathetic and parasympathetic nerve fibers to the wall of the gallbladder and bile duct [3, 5]. Since 1955, only 11 cases of schwannoma of CBD have been reported, this being the twelfth one [6]. They are usually asymptomatic and are incidentally found at radioimaging for some other diseases. Schwannomas of CBD become symptomatic due to their compression of the duct leading to obstructive jaundice. Preoperative diagnosis is extremely difficult and schwannoma of CBD should be considered as one of the rare causes of obstructive jaundice [7]. CT scan and / or magnetic resonance imaging (MRI) are required to establish the cause of CBD obstruction. Final confirmatory diagnosis is only by histopathology and schwannomas originating from the digestive tract show distinct histological features that distinguish them from conventional schwannomas [8, 9]. They are S-100 protein positive spindle cell tumors that are composed mainly of cellular (Antoni A) areas and generally do not show a nuclear palisading pattern that is usually found in conventional schwannomas of the soft tissues [9]. But in our case the nuclear palisading pattern was present with predominant Antoni A areas. As this is a curable tumor, resection remains the only treatment of choice [3, 9]. In our patient, resection of CBD along with the tumor followed by Roux-en-Y hepaticojejunostomy was performed. The patient has been asymptomatic and doing well for the last 1 year.

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