Clinical History:

We report a case of a 73-year-old female patient presenting with recurrent episodes of right upper quadrant abdominal pain and fever. Mild jaundice was inconstantly present. These symptoms were related to recurrent cholangitis and resolved after antibiotic therapy.

Imaging Findings:

Abdominal MRI showed marked, regular dilatation of the intra and extrahepatic bile ducts (Fig. 1). Multiple filling defects of intermediate signal intensity on T2-weighted imaging were visible, arising from the bile duct walls and protruding into the biliary lumen. Lesions were positive on Diffusion-weighted imaging (Fig. 2). The dominant lesion measured 15mm and arose from the lateral left wall, causing a partial obstruction of the bile duct (Fig. 3). Smaller lesions were seen in the confluence of the ducts of segment V and VIII. There were no focal hepatic lesions. A moderate splenomegaly and mild volume of ascites and pleural effusion were also visible.

Endoscopic Retrograde Cholangiopancreatography (ERCP) was performed confirming the regular dilatation of the biliary tree and multiple intraluminal papillary projections (Fig. 4). Mucus plugs were seen bulging of the papilla into the duodenal lumen. Mucin was drained and the papillary lesions were biopsied during the examination.

Discussion:

Intraductal papillary mucinous tumour (IPMT) of the biliary tract is defined as a non-invasive, mucin producing epithelial tumour [1]. It can be considered as the biliary counterpart of the pancreatic IPMT [1]. Some biliary IPMTs produce a large amount of mucin that disturbs the bile flow and causes severe biliary dilatation [2, 3]. Excessive mucin discharge may intermittently and partially impede bile flow causing obstructive jaundice, sometimes complicated by cholangitis or stone formation [3].

Imaging is essential to localise the tumour and to subsequent surgical planning [2]. Bile duct IPMTs appears as small polypoid or flat masses projecting in the lumen of the bile ducts [1, 2]. Small tumours that spread along the bile duct wall may be impossible to visualise [2]. Dilatation of the biliary tree is a common finding [2, 3]. If the tumour is localised in an intrahepatic duct, the bile ducts in the affected lobe are more dilated, sometimes with focal, aneurysmal dilatations containing the tumour [2]. A main duct tumour causes a more generalised dilatation, due to mucin overproduction with obstruction of the ampulla [2]. Mucin may be indistinguishable from papillary proliferation
at ultrasound, CT or MRI [2]. ERCP easily confirms the presence of mucin and allows biopsy, confirming the diagnosis [2].

Bile duct IPMT is a low-grade malignancy that grows slowly and tends to spread along the mucosal surface of the bile ducts [1]. It is generally limited to the mucosa, although it can invade the ductal wall in a later phase [1, 2]. It is a non-invasive neoplasm that, in rare cases, can give rise to an invasive carcinoma [1, 4]. Surgery is the treatment of choice [4]. Depending on the location of the tumour it may include bile duct resection, pancreatoduodenectomy and major hepatic resection [1, 3, 4]. Long term survival is expected after surgery [3, 4].

**Differential Diagnosis List:** Intraductal papillary mucinous tumour of the biliary tract, Multifocal papillary cholangiocarcinoma, Multiple bile duct stones, Biliary metastasis

**Final Diagnosis:** Intraductal papillary mucinous tumour of the biliary tract

**References:**


**Description:** Axial T2-weighted image shows smooth dilatation of the biliary tree, involving both intra and extrahepatic bile ducts. **Origin:** Matos C, Department of Radiology, Hôpital Erasme, Brussels, Belgium
Description: Axial T2-weighted image shows smooth dilatation of the biliary tree, involving both intra and extrahepatic bile ducts. Origin: Matos C, Department of Radiology, Hôpital Erasme, Brussels, Belgium
**Figure 2**

**a**

Description: Coronal T2 weighted image shows papillary projections arising from the bile duct wall and protruding into the biliary lumen. **Origin:** Matos C, Department of Radiology, Hôpital Erasme, Brussels, Belgium

**b**

Description: Coronal T2 weighted image shows papillary projections arising from the bile duct wall and protruding into the biliary lumen. **Origin:** Matos C, Department of Radiology, Hôpital Erasme, Brussels, Belgium
Description: Coronal T2-weighted image shows a lesion arising from the left wall of the main bile duct, causing partial obstruction. Origin: Matos C, Department of Radiology, Hôpital Erasme, Brussels, Belgium
Description: MRCP projection shows a lesion arising from the left wall of the main bile duct, causing partial obstruction. Origin: Matos C, Department of Radiology, Hôpital Érasme, Brussels, Belgium
Description: Diffusion-weighted imaging fused with coronal T2-weighted image shows a lesion arising from the left wall of the main bile duct, causing partial obstruction. Origin: Matos C, Department of Radiology, Hôpital Erasme, Brussels, Belgium
Description: ERCP shows the dilated biliary tree and multiple filling defects in the bile ducts walls, corresponding to the projecting papillary tumours. Origin: Delhaye M, Department of Radiology, Hôpital Erasme, Brussels, Belgium
**Description:** ERCP shows the dilated biliary tree and multiple filling defects in the bile ducts walls, corresponding to the projecting papillary tumours. **Origin:** Delhaye M, Department of Radiology, Hôpital Erasme, Brussels, Belgium