Intraductal papillary mucinous tumor of the pancreas

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Section: Abdominal imaging
Imaging Technique: Ultrasound
Imaging Technique: Ultrasound-Colour Doppler
Imaging Technique: CT
Case Type: Clinical Cases
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Patient: 65 years, female

Clinical History:

The patient, a diabetic woman, presented with a 6-month history of symptoms mimicking those of chronic pancreatitis: abdominal pain radiating to the back, diarrhoea and weight loss.

Imaging Findings:

The patient, a diabetic woman, presented with a 6-month history of symptoms mimicking those of chronic pancreatitis: abdominal pain radiating to the back, diarrhoea and weight loss. Previous ultrasonography had not shown any relevant findings.

On admission, laboratory results showed anaemia. Chest films were considered normal. Abdominal ultrasonography and CT were performed.

Discussion:

Mucinous pancreatic tumours have been classified into peripheral and ductal tumours according to their site of origin. Intraductal tumours were known by various different names until "intraductal papillary mucinous tumour of the pancreas" was adopted as a unifying term [1].

The intraductal papillary mucinous tumour is one of the mucin-producing tumours of the pancreas. This tumour arises in the main pancreatic duct and its collateral branches and results in obstruction and progressive ductal dilatation or cyst formation. Long-term obstruction of pancreatic ducts leads to fibrosis and atrophy mimicking chronic pancreatitis. The tumour may occur in four forms: segmental or diffuse involvement of the main pancreatic duct and macrocystic or microcystic involvement of a branch duct [2].

Branch duct intraductal papillary mucinous tumours of the pancreas are seen in men between 60 and 80 years old and predominantly occur in the uncinate process. When the lesion is small it is usually an incidental finding. Clinical features of large tumours are similar to those of acute or chronic pancreatitis. Signs and symptoms of advanced disease include diarrhoea, abdominal mass, weight loss and diabetes.

Branch duct lesions most frequently appear as masses and may demonstrate a macrocystic or microcystic pattern. Therefore, these tumours are more easily identifiable than main duct tumours which manifest as ductal dilatation.
The macrocystic pattern is more frequent and is characterised by septa separating unilocular or multilocular cyst-like lesions. Nevertheless, in later stages this tumour may show the typical features of main duct intraductal papillary mucinous tumours, with dilation of the main pancreatic duct and bulging of the papilla into the duodenal lumen. Obstruction of the common bile duct may also be demonstrated.

Endoscopic retrograde cholangiopancreatography (ERCP) easily demonstrates direct communication of the main pancreatic duct with the cystically dilated ductal segment.

Thin-section contrast-enhanced CT scans, MR imaging and MR cholangiopancreatography may reveal clusters of involved side-branch ducts and communications between cystically dilated segments and the main pancreatic duct. In advanced disease, mass effect along the duodenum and obstruction of the common bile duct may occur. MR imaging is considered superior to ERCP given the ability of MR imaging to reveal the full extent of ductal involvement, particularly when obstructing mucus prevents diagnostic opacification of the entire duct [3]. A papilla bulging into the duodenal lumen in patients with this tumour has been reported to be more often observed in malignant than in benign intraductal papillary mucinous tumours [4]. Benign intraductal papillary mucinous tumours are significantly more common in patients in whom the main pancreatic duct is not dilated [5].

Surgical resection is the preferred method of treatment due to the potential for malignancy of these lesions.

**Differential Diagnosis List:** Intraductal papillary mucinous tumour of the pancreas

**Final Diagnosis:** Intraductal papillary mucinous tumour of the pancreas

**References:**

Figure 1

**Description:** Sonograms show multiple cystic masses in the region of the pancreatic head (arrows) and tail. **Origin:**
**Description:** Colour-Doppler examination demonstrates that these cystic lesions do not correspond to vascular structures (arrows). **Origin:**
Description: Axial contrast-enhanced CT scan showing side-branch duct cysts in the pancreatic head, body, and tail (arrows). It might be difficult to differentiate this entity from other cystic lesions of the pancreas. Origin:
**Figure 3**

*Description:* Axial contrast-enhanced CT scan reveals a bulging ampulla at the duodenal sweep (arrow). *Origin:*
Description: Axial contrast-enhanced CT scan demonstrates multiple intrapancreatic and peripancreatic multilocular, lobulated, thin-walled lesions. The duodenal lumen is compressed and the mesenteric vein does not seem to be involved (arrow). Origin: