Ectopic Pancreas in the Duodenojejunal Flexure—Computed Tomographic and Endoscopic Ultrasonographic Images

Kishan Singh Rawat¹ · T. B. S. Buxi¹ · Anurag Yadav¹ · Samarjit Singh Ghuman¹ · Sunita Bhalla¹ · Shashi Dhawan¹

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Abstract Ectopic pancreas is a rare entity where the pancreatic tissue has no anatomic and vascular contact with the main body of the pancreas and has its own duct system and vascular supply. A detailed clinical report with contrast-enhanced computed tomography (CT) and endoscopic ultrasonography (EUS) imaging findings of a 40-year-old male came with vague symptoms. CT showed a well-defined homogeneously enhancing mass lesion in the duodenojejunal (DJ) flexure. EUS revealed a well-defined hypoechoic mass lesion in the submucosal layer of the DJ flexure. Surgical resection of the mass was performed, and histopathological examination of specimen confirmed the pancreatic tissues. Here, we have described the CT and EUS imaging features which can help to differentiate the ectopic pancreas from the gastrointestinal submucosal tumours.

Keywords Ectopic pancreas · Duodenojejunal flexure · Computed tomography · Endoscopic ultrasonography

Ectopic Pancreas

A 40-year-old male patient came with complaints of indigestion and postprandial fullness. His physical examination and his laboratory tests were within normal limits. Contrast-enhanced CT revealed a well-defined homogeneously enhancing mass lesion in the region of the DJ flexure. Enteroscopy was normal. EUS showed a well-defined 2.9×1.8-cm size hypoechoic lesion in the submucosal layer of the DJ flexure. The patient was operated upon, and laparoscopic-assisted excision of DJ flexure mass with duodenojejunal anastomosis was done. Histopathological examination of surgical specimen demonstrated ectopic pancreatic tissue with lobules of normal pancreatic acini in the submucosal layer of DJ flexure. The follow-up was uneventful (Figs. 1 and 2).

Ectopic or heterotopic pancreas is defined as pancreatic tissue that has no anatomic and vascular contact with the main body of the pancreas and has its own duct system and vascular supply. The ectopic pancreatic tissue may have pancreatic acini, pancreatic ducts, and islets of Langerhans. The most common sites of ectopic pancreas are in the gastric antrum, duodenum, or jejunum. Ectopic pancreas is usually asymptomatic, but it may produce symptoms depending on its size and site. Complications like

✉ Kishan Singh Rawat
ksrawat14@rediffmail.com

¹ Sir Ganga Ram Hospital, Rajinder Nagar, New Delhi 110060, India

Fig. 1 Forty-year-old man with an ectopic pancreas in the duodenojejunal (DJ) flexure. **a** Non-contrast CT axial image shows an isodense lesion in DJ flexure. **b** Contrast-enhanced CT axial image in arterial phase shows a homogeneously enhancing mass lesion in DJ flexure. **c** Contrast-enhanced CT axial image in venous phase shows a

homogeneously enhancing mass lesion in the DJ flexure. **d** Contrast-enhanced CT coronal image in arterial phase showing a homogeneously enhancing mass lesion in DJ flexure. **e** Contrast-enhanced CT coronal image in venous phase showing a homogeneously enhancing mass lesion in DJ flexure

pancreatitis, pseudocyst, gastrointestinal bleeding, small bowel obstruction, and malignant transformation have been reported, though very rare. The diagnosis of ectopic pancreas is difficult on imaging. However, recent studies have reported that EUS and CT may be used for diagnosis of ectopic pancreas.

On EUS, ectopic pancreas is a well-circumscribed submucosal mass with ill-defined or serrated margins, a normal overlying mucosa and a central dimpling which corresponds with the opening of a duct. CT can help in the diagnosis of ectopic pancreas and can distinguish it from gastrointestinal submucosal

Fig. 2 Forty-year-old man with an ectopic pancreas in the duodenojejunal (DJ) flexure. **a** Enteroscopic image showed no mass lesion. **b** EUS image shows a well-defined hypoechoic mass lesion in

the DJ flexure. **c** Histopathology section of surgical specimen shows lobules of normal pancreatic acini in the submucosal layer of DJ flexure duodenal mucosa. H&E, $\times 100$

tumours. Five CT criteria—location, lesion margin, endoluminal growth pattern, enhancement of overlying mucosa, and long-diameter (LD)/short-diameter (SD) ratio can help in distinguishing ectopic pancreas from other gastric submucosal tumours like gastrointestinal stromal tumour (GIST) and leiomyoma.

When four of these criteria were used, a sensitivity of 42.9% and a specificity of 100% were found.

Conflict of Interest The authors declare that they have no competing interests.