

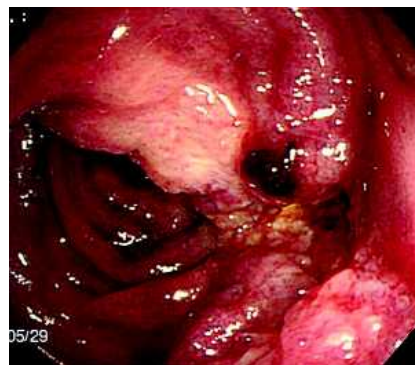
## Small-intestinal cancer arising from heterotopic pancreas



**Fig. 1** Small-bowel radiography shows a protrusion with smooth margin accompanied by stenosis in the jejunum. There were barium flecks and fold convergences in the anal side of the stenosis.



**Fig. 2** Oral double balloon endoscopy shows a submucosal tumor in the jejunum.



**Fig. 3** Intraoperative enteroscopy from the anal side of the stenosis reveals a nodular and friable tumor with an ulcer in the center.

We report on a case of jejunal cancer arising from heterotopic pancreas, as depicted by small-bowel radiography and double balloon endoscopy.

A 64-year-old woman was admitted to our hospital with abdominal distension and epigastric pain. Small-bowel radiography with double contrast study showed a stenosis in the jejunum and a dilatation of the proximal small intestine (● **Fig. 1**). Oral double balloon endoscopy showed a smooth, ulcerating tumor that involved the jejunum circumferentially (● **Fig. 2**). Under laparotomy, a solid mass was seen with a stenosis about 45 cm distal to the ligament of Treitz. Intraoperative enteroscopy from the anal side of the stenosis revealed a nodular and friable tumor with an ulcer (● **Fig. 3**). The segment of the jejunum containing the tumor together with some enlarged lymph nodes were removed.

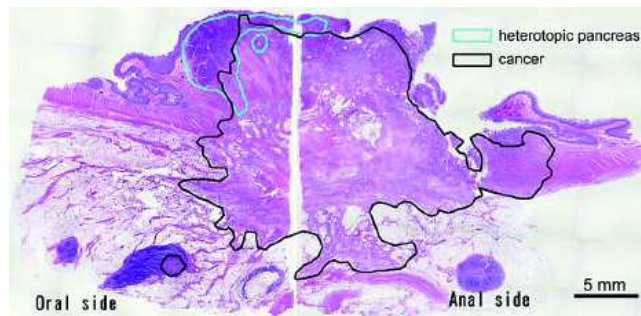
Macroscopically, there was a mass with an umbilication and an irregular ulcer, which was covered with normal mucosa (● **Fig. 4**). Histologically, there was pancreatic tissue within the submucosa and the muscularis propria in the proximal part of the tumor, and adenocarcinoma cells were seen peripherally in the pancreatic tissue (● **Fig. 5 and 6**). These findings were compatible with the diagnosis of adenocarcinoma originating from heterotopic pancreas. Although we treated

the patient by chemotherapy with gemcitabine, she died as a result of carcinomatous peritonitis 5 months after the surgery.

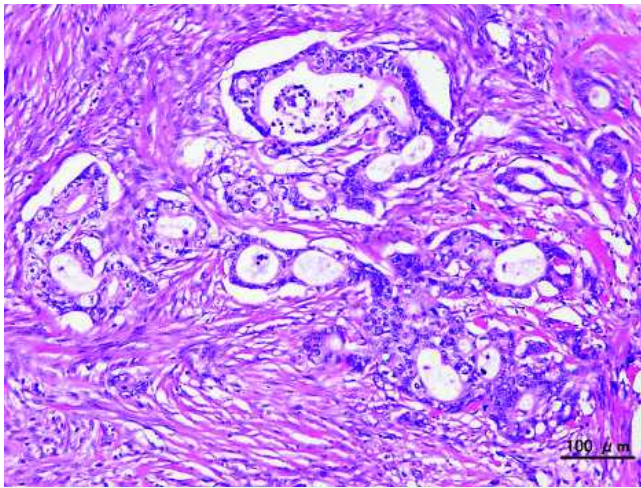
Although extremely rare, there have been cases in which small-intestinal heterotopic pancreas was presumed to have transformed into adenocarcinoma [1–3]. The images from our case can be summarized



**Fig. 4** A macroscopic view of the resected specimen shows that the tumor with an umbilication is covered by normal mucosa.



**Fig. 5** Histologic examination of the specimen shows that the tumor is composed of areas of heterotopic pancreas (surrounded by blue line) and adenocarcinoma (surrounded by black line).



**Fig. 6** A high-power view of the carcinomatous area indicates that the cancer cells are arranged in tubular and cribriform patterns with abundant fibrous stroma.

as asymmetrical luminal narrowing with a smooth tumor in the oral side and an ulcerating nodular tumor in the anal side. Our case suggests that enteroscopists should regard heterotopic pancreas as a possible premalignant lesion.

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## Bibliography

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