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Case Report

A Case of Heterotopic Pancreas in Lymph Node

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Summary. A case of pancreatic heterotopia in a lymph node is described. Small pieces of pancreatic tissue were found incidentally in four lymph nodes located around the common hepatic artery in a 65-year-old man. Both exo- and endocrine elements of the pancreas, together with ductal structures were found to constitute the heterotopic tissue. No authentic case of heterotopic pancreas in lymph node has been previously reported in the literature.

Key words: Heterotopic pancreas – Lymph node

Introduction

Seventy seven percent or more of cases of heterotopic pancreas have been found in the wall of the gastrointestinal tract (Barbosa et al., 1946). Lymph nodes seem to be an unusual site for pancreatic heterotopia and little information is available on this subject. In this communication, a case of heterotopic pancreas found incidentally in the retropyloric lymph nodes will be described and some problems related to this condition discussed.

Case Report

A 65-year-old male patient had had glycosuria for five years prior to admission to Fukuoka University Hospital on June 6, 1976. On admission, fasting blood glucose was 180 mg/dl and glycosuria approximately 10 g/day. An upper G-I series disclosed a tumor in the posterior wall of the body of the stomach. Subtotal gastrectomy was performed on June 22, 1976. Histologically, the tumor was found to be an adenocarcinoma localized within the mucosa and submucosa.

In the retropyloric fat tissue around the common hepatic artery, several centimeters remote from the tumor of the stomach and a few centimeters distant from the head of the pancreas,

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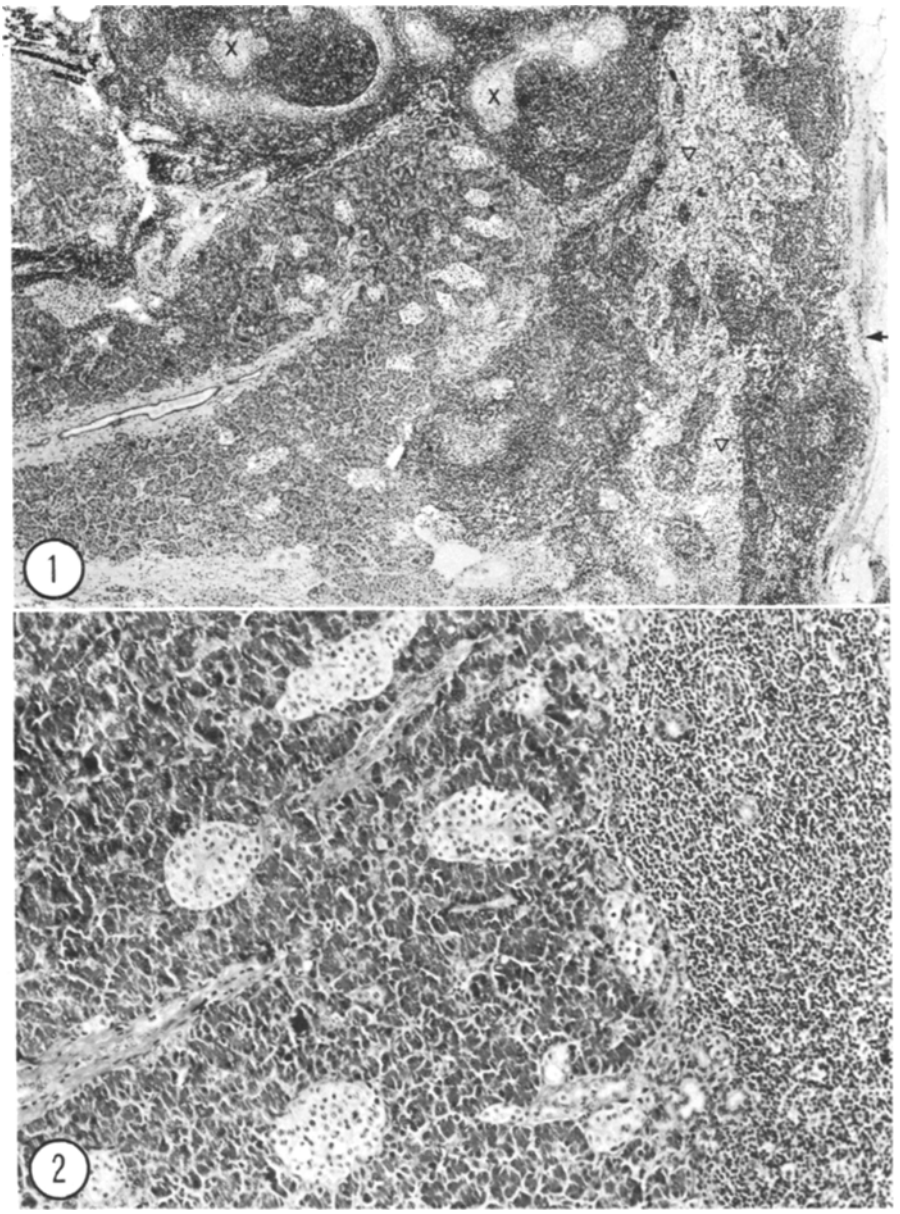

Fig. 1. Section of a lymph node containing ectopic pancreas.The ectopic pancreas with a duct in its axial position is seen in the left lower quadrant. The arrow points to the capsule and the underlying marginal sinus of the lymph node. The clear triangle (▽) denotes the medullary sinuses. Two cortical follicles can be seen between the marginal and medullary sinuses. The cross (x) indicates the heterotopic pancreatic ducts showing epithelial proliferation. H–E stain, ×40

Fig. 2. High power view of a part of Figure 1., showing pancreatic acini and islets of Langerhans. H–E stain, ×125

there was a firm, lobulated tissue mass measuring 2.5 cm in largest diameter. This mass lacked a fibrous capsule and was evidently distinct from the pancreas. Because of the possibility of metastatic cancer, the mass was removed simultaneously with an extensive perigastric lymph node resection.

For histologic examination, 4 μ thick paraffin sections were stained routinely with hematoxylin and eosin. Special stains included Ivić's Victoria blue-acid fuchsin (for islet cells), Alcian blue, PAS, phosphotungstic acid-hematoxylin, and Gomori's silver method. Microscopically, the extirpated retropyloric mass was found to comprise four discrete lymph nodes which ranged in size from 1.5 to 0.3 cm in largest diameter. The fibrous capsule, cortical follicles and lymph sinuses were clearly discernible in these lymph nodes. No metastasis was found in these four nodes or in any other nodes removed at operation.

In the largest of the four retropyloric lymph nodes there was irregularly circumscribed pancreatic tissue composed of glandular acini, ducts and islets of Langerhans (Figs. 1 and 2). The acinar cells contained distinct zymogen granules. The centroacinar cells were clearly discernible. The islets of Langerhans varied in size to a certain extent and were somewhat unevenly distributed, but A-, B- and D-cells appeared in normal proportions. Scattered around this pancreatic tissue were individual ductal structures, the lumina of which were lined by multilayered columnar epithelial cells. Some of these ducts were dilated, while others were obliterated by epithelial proliferation. Squamous metaplasia of the ductal epithelium with or without keratinization was occasionally seen. In the remaining three smaller lymph nodes there were also similar ductal structures. In addition, a tiny mass of pancreatic acini was found in one of these three nodes.

Discussion

Comprehensive reviews of literature together with studies of personal cases of heterotopic pancreas have been made by Barbosa, Dockerty and Waugh (1946), Busard and Walters (1950), and Pearson (1951). According to Barbosa et al., the common sites of heterotopic pancreas were the stomach (25.5%), the duodenum (27.7%) and the jejunum (15.9%). Meckel's diverticulum (5.3%) and the ileum (2.8%) followed them. Unusual abdominal locations included the colon, the spleen, the liver, the biliary tract, the mesentery and omentum, and the abdominal wall. Rare cases of extraabdominal heterotopia in mediastinal dermoid cyst, in esophageal diverticulum and in sequestered lung have been reported by other authors (Crosby and Graham, 1932; Ishigami et al., 1965; Beskin, 1961).

With regard to heterotopic pancreas in lymph node, only an account by Nakamura (1924) has been found in the literature. This author described the presence of pancreatic tissue in the lymph nodes of two fetuses. These nodes were found, however, to be located either within the original pancreas or in its immediate vicinity. Owing to the very brief description, it is not certain whether the author dealt with an actual heterotopia or with a projection of part of the growing pancreas into adjacent lymphoid tissue. We recently encountered a similar instance in an autopsy of a 3-month-old female infant with D_1-trisomy. In this case, the intra-lymphnodal pancreatic tissue proved to be in direct connection with the head of the pancreas (Fig. 3).

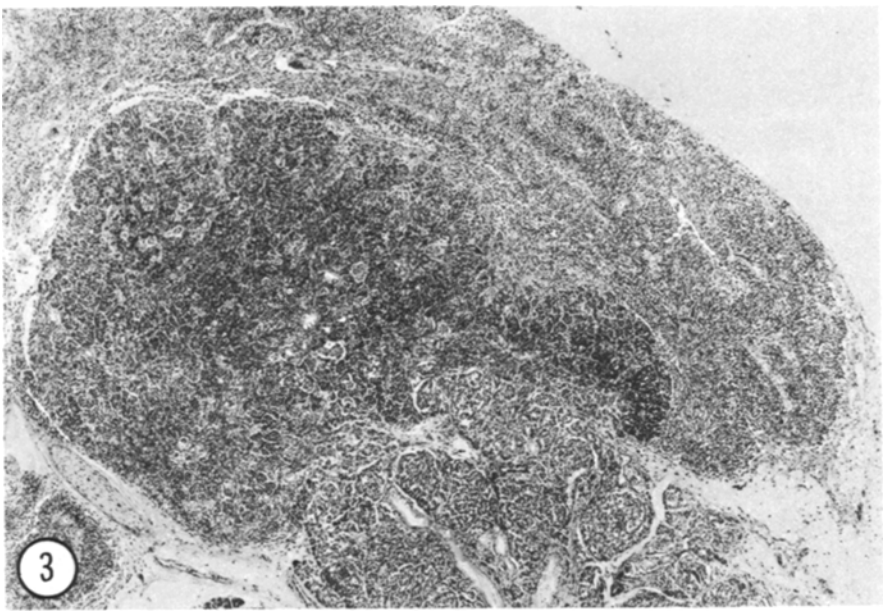

Fig. 3. Pancreatic tissue inclusion in a peripancreatic lymph node from a 3-month-old female infant with D_1-trisomy. The inclusion tissue observable in the middle part is in connection with the head of the pancreas which can be seen in the lower part of the photograph. H–E stain, ×30

In contrast, the pancreatic tissue in our present case was found in four separate lymph nodes obviously isolated from the original pancreas. To our knowledge, heterotopic pancreas in remote lymph nodes has never been reported in the literature.

The heterotopic pancreas in the gastrointestinal tract and elsewhere is divided into three groups on the histologic basis (Heinrich, 1909). The first group contains all constituents of normal pancreas; the second group lacks the Langerhans' islets; and the third group consists only of the acinar cells. The heterotopic pancreas in our present case falls into the first group.

Although the pancreatic heterotopia in lymph node is unusual, inclusion in lymph node of thyroid, parotid or endometrial tissue has been observed by many investigators (Frantz et al., 1942; Nicholson, 1922; Javert, 1952). Two possibilities have been proposed for the mechanism of this inclusion: a developmental error (Nicholson, 1922; Frantz et al., 1942) or lymphatic transport and benign metastasis of epithelial elements (Javert, 1952; Gerard-Marchant, 1964). It would be unwise, however, to apply either of these speculations to the pathogenesis of pancreatic heterotopia in lymph nodes on the basis of our own findings. The problem is open for future study, and we must await accumulation of pertinent cases.

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