1.25×10^7 individuals) this can be regarded as evidence that the de novo tumour originated from the patient and is therefore a metastasis of the original hepatocellular carcinoma. The alternative would be that the carcinoma had originated from the donor liver, which for statistical reasons is extremely improbable. Also biologically, the DNA profile IV would have needed to be converted into profile II, which would necessitate a series of single and multiple step mutations that has not yet been observed.

We suggest that if such questions arise after organ transplantation, STR analysis can be performed. It is also recommended that a blood drop from the donor should be made on cotton and stored over several years to serve as a control for related questions. In a case with a sex mismatched transplantation, fluorescent in situ hybridisation is an alternative method of investigation¹⁴; however, the STR approach presented here allowed discrimination of the tumour origin independent of the sex of the donor and the recipient.

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Lymphoepithelial cyst of the pancreas

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Abstract

A rare case of lymphoepithelial cyst of the pancreas is reported. Microscopically the cyst content consisted of keratinous material and the walls were lined by mature squamous epithelium surrounded by dense lymphoid tissue. Immunohistochemistry showed diffuse reactivity for CD20 and CD3 in the lymphoid tissue and uniform positivity for cytokeratins in the squamous epithelium. Although the histogenesis of lymphoepithelial cysts of the pancreas is not understood, awareness of this lesion is helpful in differentiating it from other pancreatic cystic lesions.

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Keywords: pancreatic cyst; lymphoepithelial cyst

In 1985 Lühtrath and Schriebers¹ described a multilocular cyst of the pancreas histologically similar to the so called branchiogenic cysts that occur in the sides of the neck. The walls were lined by mature stratified squamous epithelium surrounded by lymphoid tissue. Only one other

case of pancreatic lymphoepithelial cyst has since been reported.²

In this paper we describe a case of pancreatic lymphoepithelial cyst seen at our institute.

Case report

A 57 year old man presented with a three month history of intermittent upper abdominal pain. On admission an ultrasonographic study showed a round mass measuring 18 mm in diameter located in the head of the pancreas. At laparotomy the cyst was removed and the rest of the pancreas showed no abnormality. The postoperative course was uneventful.

GROSS EXAMINATION

The cyst measured 25 mm in diameter and had a smooth inner surface and a thin outer fibrosis layer. When it was opened it consisted of a single loculus filled with tan-grey material.

MICROSCOPIC EXAMINATION

Histological examination showed that the cyst was filled with keratinous material and the walls were lined by keratinising squamous epi-

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Figure 1 Cyst lining epithelium covering dense lymphoid tissue containing germinal centre. Pancreatic tissue is present outside the lymphoid layer. Haematoxylin and eosin.

Figure 2 Detail of a germinal centre and of the overlying keratinising squamous epithelium. Haematoxylin and eosin.

thelium which was completely surrounded by lymphoid tissue composed of small lymphocytes, plasma cells, and germinal centres (figs 1 and 2). A thin band of collagen almost completely enclosed the lymphoid stroma. The remaining periphery was composed of pancreatic tissue.

Immunohistochemical staining (avidin-biotin peroxidase method) was performed on formalin fixed, paraffin embedded tissue sections using the following monoclonal antisera: AE1-AE3 (Ventana), CD20 (Epoq), and CD3 (Epoq). Appropriate positive and negative controls were run concurrently for all antibodies tested.

The squamous epithelium showed uniform positivity for cytokeratins. Diffuse reactivity for CD20 and CD3 was observed in lymphoid tissue.

Discussion

Only two previous cases of lymphoepithelial cyst of the pancreas have been reported.^{1,2} Both groups of investigators attempted to explain the histogenesis of the lesion but no definite conclusions were reached. Luchtrath and Schriefers¹ noted the histological similarity to branchial cleft cysts of the lateral neck area, while Truong *et al*² suggested that such cysts could arise from benign epithelial inclusions or from ectopic pancreas trapped within peripancreatic lymph nodes. Truong *et al* examined 435 nodes from the region of the pancreas and failed to find either squamous epithelial inclusions or heterotopic pancreatic tissue, but their hypothesis was not disproved because a review of the literature revealed a case of heterotopic pancreas in a peripancreatic lymph node.³

Awareness of this uncommon benign lesion can be helpful in the differential diagnosis of other similar appearing cystic lesions of the pancreas. The most important distinguishing aspect is the presence of lymphoid tissue which has never been described in retention cysts, congenital cysts, or dermoid cysts occurring in the pancreas.

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