Case report

Leiomyosarcoma of the pancreas

E. de Alava¹, J. Torramadé², J.J. Vázquez¹

¹ Department of Pathology, Clínica Universitaria de Navarra, Facultad de Medicina, Universidad de Navarra, Pamplona, Spain
² Department of Surgery, Clínica Universitaria de Navarra, Facultad de Medicina, Universidad de Navarra, Pamplona, Spain

Received November 27, 1992 / Received after revision March 9, 1993 / Accepted March 12, 1993

Abstract. We report a case of leiomyosarcoma of the pancreas. A spindle cell pattern at light microscopy, immunocytochemical reactivity with desmin, alpha-1-antitrypsin, vimentin and actin and ultrastructural features of smooth muscle differentiation help to establish the diagnosis.

Key words: Pancreas – Leiomyosarcoma

Introduction

Leiomyosarcoma of the pancreas is a very uncommon tumour. As far as we are aware, only 14 cases have been reported some of which were unresectable. We report a further case, which was completely excised.

Case report

A 71-year-old man presented with a 2 month history of left upper abdominal pain and weight loss (6 kg in the last 2 months). The abdominal CT scan revealed a 4 cm well-defined, solid mass located in the pancreatic body. Coeliac angiography showed that the mass was supplied by branches of the main pancreatic artery. A clinical diagnosis of a tumour of probable endocrine origin was made. Fine-needle aspiration biopsy was performed, but did not help in the diagnosis. In the surgical procedure, the body and the tail of the pancreas were removed.

Pathological findings

Macroscopically a round, whitish, well-demarcated mass, 3.6 cm in diameter was found in the body completely surrounded by pancreatic tissue (Fig. 1).

Microscopically the tumour was fairly cellular and composed of spindle cells of uniform size, arranged in interlacing bundles. The nuclei were elongated, with

Correspondence to: E. de Alava, Department of Pathology, Clínica Universitaria de Navarra. Apdo. 273, E-31080 Pamplona, Spain

Fig. 1. A Macrograph showing a well-demarcated tumour surrounded by normal appearing pancreas. B Micrograph of the edge of the tumour. A pseudocapsule intervenes between the tumour and the atrophic pancreatic tissue. H & E ×150
Fig. 2. Tumour field showing marked cellularity and atypia. Three mitotic figures are seen (arrows). H & E × 400

blunt ends and sharply outlined by an eosinophilic staining cytoplasm in which peripheral myofibrils could be shown up by a phosphotungstic acid haematoxylin stain. Rather poorly differentiated areas with ovoid and polygonal cells of varying size and occasional giant cells were observed. Mitotic figures were frequent (10–14 per 10 HPF). (Fig. 2). Some areas showed concentric arrangements of spindle cells, suggesting a small vessel origin. Small areas of pancreatic tissue composed of atrophic exocrine acini and normal islets of Langerhans were seen trapped inside the tumour. Immunocytochemical studies showed reactivity with desmin (Fig. 3A) (Dako, Dakopatts A/S, 1/200), alpha-1-antitrypsin (Dako, 1/900), vimentin (Fig. 3B) (BioGenex, 1/900) antisera, and focally to muscle specific actin (Dako, 1/500). There was no reactivity to AE3/AE1 keratins (BioGenex, 1/200) nor to CAM 5.2 keratin (BioGenex, prediluted).

Ultrastructurally, the tumour consisted of small cells completely surrounded by a distinct basement membrane. The nucleus was often folded and cytoplasm contained bundles of thin filaments with focal densities along their course. Subsarcolemmal densities in which filaments appeared to be anchored were also seen (Fig. 4). The spleen and lymph nodes were normal. A diagnosis of leiomyosarcoma was established.

Discussion

Leiomyosarcoma of the pancreas is a rare tumour. Fourteen cases have been reported (Table 1), usually as single communications (Becker et al. 1963; Berman and Levine 1956; Carda et al. 1976; Ishikawa et al. 1981; Murata et al. 1990; Nordback et al. 1990; Oyamada et al. 1970; Rodl and Hoffman-Preiss 1988; Ross 1951; and Tulha et al. 1982), although Baylor and Berg (1973) collected