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Case Report

Microcystic/reticular schwannoma of the adrenal gland: a case report and literature review

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ABSTRACT

Microcystic/reticular schwannoma is a recently described, rare, distinctive histological variant of schwannoma with a predilection for the gastrointestinal tract [1]. Unlike classic Schwannoma, most microcystic/reticular Schwannoma had an incomplete fibrous capsule, two distinctly different areas - hypercellular areas and myxoid areas, Microcystic/reticular schwannoma occurs in the internal organs, especially in the digestive tract and a rare case occurs in the adrenal glands [1–3]. Herein, we report a case of microcystic/reticular schwannoma of the adrenal gland, in a 60-year-old male with 7.0 cm × 6.0 cm × 5 cm mass in the left adrenal gland. The tumor showed a vague multinodular appearance with a pushing border and arranged in a microcystic and reticular growth pattern with anastomosing and intersecting strands of spindle cells in a myxoid or collagenous/hyalinized stroma. Tumor cells showed diffuse nuclear and cytoplasmic positivity for S-100.

1. Introduction

Schwannoma arises from the Schwann cells that encompass the peripheral nerve bundles, well-circumscribed, with a complete capsule, and with a bland-looking spindle cell morphology with mixed Antoni A (hypercellular, often containing verocay bodies) and Antoni B areas [4]. Several morphologic variants of schwannoma are recognized, these are, conventional, cellular, microcystic/reticular, plexiform, and melanotic schwannoma [5–7]. Microcystic/reticular schwannoma is a rare new subtype of schwannoma, and was first reported by Liegl in 2008 [8]. Up to now, there are 15 cases of microcystic/reticular schwannoma arising primarily in the gastrointestinal tract, accounting for more than a half of all cases (31cases). The tumor arising in the adrenal gland (2 cases) is extremely rare. Herein we report a case of microcystic/reticular schwannoma arising in an adrenal gland and include a review of the literature, and the clinical pathological features and differential diagnosis.

2. Case report

A 60-year-old male was found to have a mass in the left adrenal gland, during a routine health examination (Fig. 1A). Computed tomography (CT) scan showed the tumor mass was well-defined with dimensions of 7 cm × 6 cm × 5 cm in maximum cross-section with a uniform density in the left adrenal gland region (Fig. 1B). Excision of the left adrenal gland was performed. The resected mass, which measured 7 cm × 6 cm × 5 cm, was oval, and was well-circumscribed. Cut sections were off-white-yellow, homogeneously solid with a myxoid appearance. The surrounding tissues showed some adrenal tissue and adipose tissue.

3. Microscopy

Microscopic examination showed the lesion had two distinct histological patterns (Fig. 2A), One area cells are abundant, arrange with nodular or laminar, no obvious palisade structure, tumor cells are oval, spindle or polygonal with poorly circumscribed, eosinophilic cytoplasm, and the nucleus was oval or conical, slightly eccentric nucleus, chromatin was fine, and some cells have visible small nucleolus (Fig. 2B). The tumor cells had a mild nuclear atypia, and occasional mitotic figures were seen. In other areas the cells showed highly mucoid degeneration, and cells were arranged in a curvilinear, microcystic, reticular growth pattern with anastomosing and intersecting strands of spindle cells in a myxoid or collagenous/hyalinized stroma. The microcystic/reticular pattern accounted for about 50% of the tumor (Fig. 2C). In some areas, the cells formed pseudoglandular, cord-like, cribriform or labyrinthine patterns and had eosinophilic cytoplasm. The tumor was poorly well-circumscribed, no evident atypia, and had a

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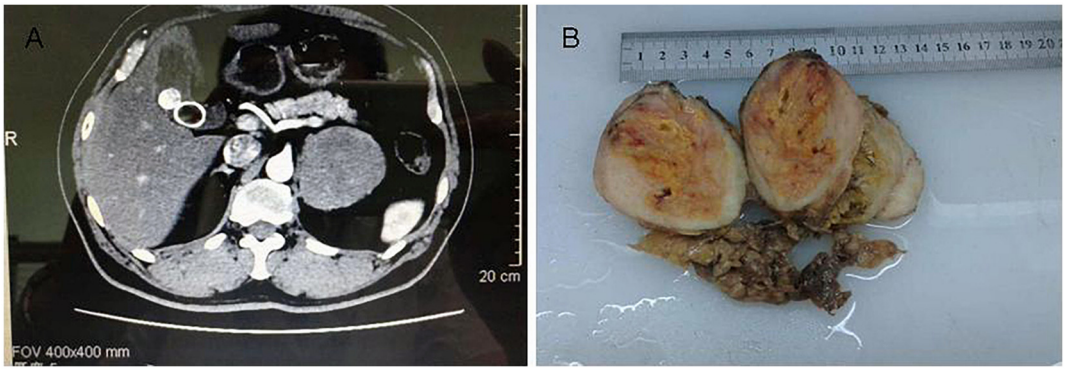

Fig. 1. A: Computed tomography (CT) scan showed the left adrenal gland;B: the tumor presented a well-defined demarcation with 7 cm × 6 cm in maximum cross-section with a uniform density.

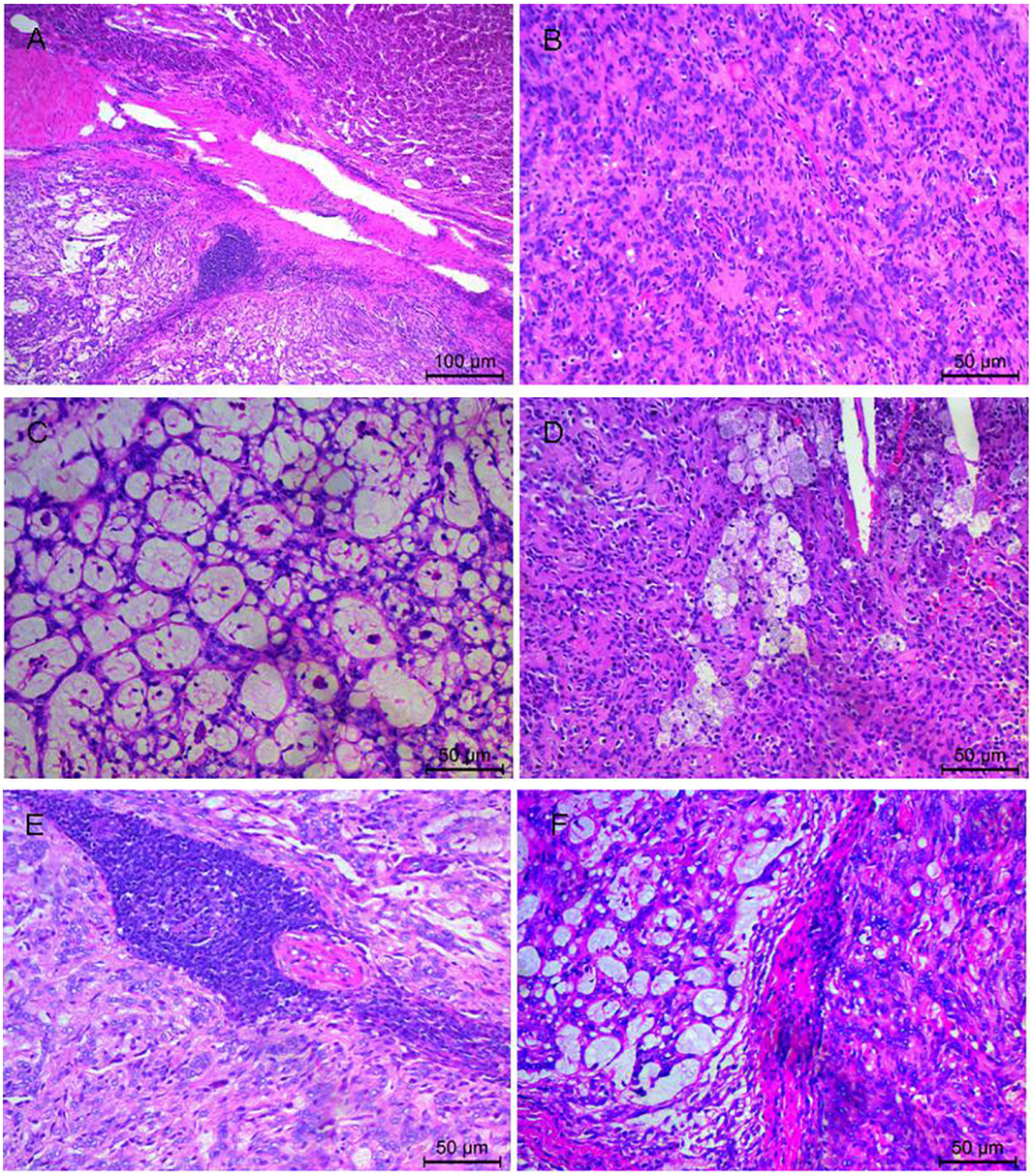

Fig. 2. A: The tumor cells had two pattern; B: hypercellular areas; C: myxoid areas showed the microcystic/reticular: D: Foamy histiocytes; E: lymph node formation; F: A comparatively thick and dense collagen fibers surrounded the tumor;