

Images in cardio-thoracic surgery

Intimal sarcoma of pulmonary artery: multi-slice ECG-gated computed tomography findings with 3D reconstruction

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Received 17 November 2004; received in revised form 2 January 2005; accepted 10 January 2005; Available online 5 March 2005

Keywords: Intimal sarcoma; Multi-slice ECG-gated CT

An intra-vascular right pulmonary artery mass was shown using ECG-gated multi-slice CT in patient with progressive dyspnea and weight lost (Fig. 1). Endovascular biopsy, guided by virtual angiography derived from the CT data,

suggested diagnosis of intimal sarcoma. Pneumonectomy was done with total resection of right pulmonary artery, pulmonary trunk and partial resection of the left pulmonary artery confirming the histopathological diagnosis (Fig. 2).

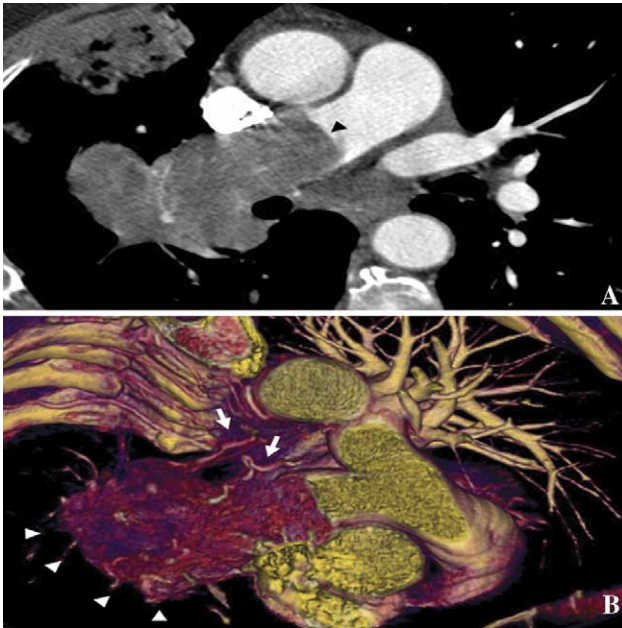


Fig. 1. Multi-slice ECG-gated CT scan (slice thickness, 1.25 mm). (A) Contrast enhanced axial image, the right pulmonary artery was completely occluded by a mass (arrowhead). Endovascular component and extension into the surrounding pulmonary parenchyma were well shown. (B) 3D volume-rendered reconstruction (oblique view) shows the extension (arrowheads) and bronchial artery hypertrophy (arrows) more clearly.

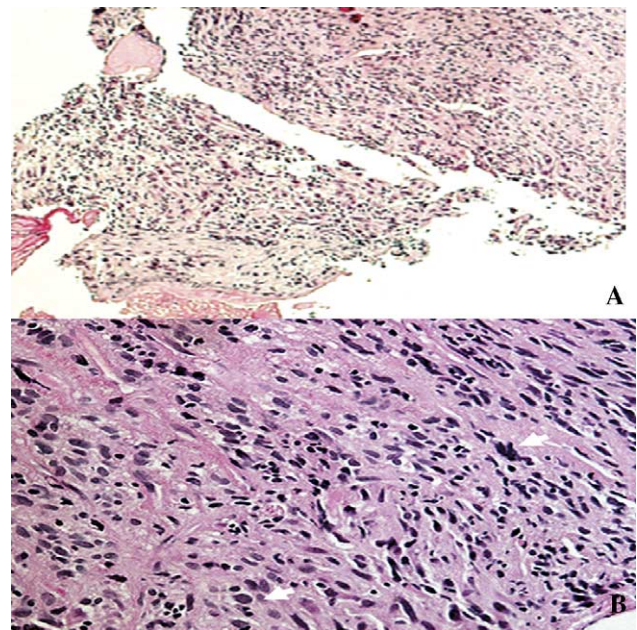


Fig. 2. Histopathology. (A) Low magnification of sample obtained from endovascular biopsy (haematoxylin-eosin stain 40 \times). (B) High magnification showing histological feature: the tumour cells showed significant cytonuclear atypia (arrows) and a high mitotic index (15 mitoses per 10 hpf–0.177 mm²) producing a solid tumor without specific architectural features. No foci of heterologous differentiation were identified. The histological feature was compatible with diagnosis of intimal sarcoma of pulmonary artery grade III (according to the FNCLCC-system) with invasion into the surrounding pulmonary parenchyma and adjacent lymphatic nodes (hematoxylin-eosin stain 200 \times).

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