

Superior Vena Cava Lipoma in an Asymptomatic Man

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Abstract A 58-year-old asymptomatic male smoker, underwent computed tomography of the chest for lung cancer screening. Unenhanced CT showed a hypodense elongated lesion with fat density within the superior vena cava (SVC). Magnetic resonance imaging was performed and confirmed the fatty nature of the lesion. Surgical resection of the lesion was performed and histopathological evaluation confirmed the diagnosis of SVC lipoma.

Keywords Lipoma · Superior vena cava · Computed tomography · Magnetic resonance imaging

Case Report

A 58-year-old asymptomatic male smoker underwent computed tomography (CT) of the chest for lung cancer screening. Unenhanced CT showed a hypodense elongated lesion with fat density within the superior vena cava (SVC; Fig. 1). Magnetic resonance imaging (MRI) was performed

and confirmed the fatty nature of the lesion (Fig. 2). Surgical resection of the lesion was performed, and histopathological evaluation confirmed the diagnosis of SVC lipoma (Fig. 3).

Discussion

Intravascular lipomas are rare benign tumors that arise from vein walls, most commonly within the inferior vena cava [1]. Several cases of lipomas projecting into the inferior vena cava, brachiocephalic vein, or femoral vein have been described, but only five cases of intravascular lipoma of the SVC have been reported [2]. Intravascular lipomas may be asymptomatic or may cause venous obstructive symptoms, including upper limb swelling [1]. In most cases, lipomas are found incidentally, with a frequency of approximately 0.5 % in routine abdominal CT examinations [3].

The diagnosis of benign intravascular lipoma may be obtained by CT, MRI, superior vena cavography, or 18F-fluorodeoxyglucose positron emission tomography (FDG-PET). Contrast-enhanced CT reveals a well-defined rounded mass of fat attenuation occluding the lumen of the SVC [1]. MRI is helpful in determining the extent of the lesion and confirming its fatty nature [3]. Superior vena cavography typically shows a reduced lumen of the SVC and a large lobulated filling defect. FDG-PET results are typically negative, ruling out the diagnosis of venous extension of a distinct primary cancer [1].

Typically, surgical excision is indicated only when the tumor causes pain or compression of adjacent structures [2]. However, Mordant et al. [1] believe that surgical resection is mandatory because it is the only way to make a definitive distinction between benign lipoma and

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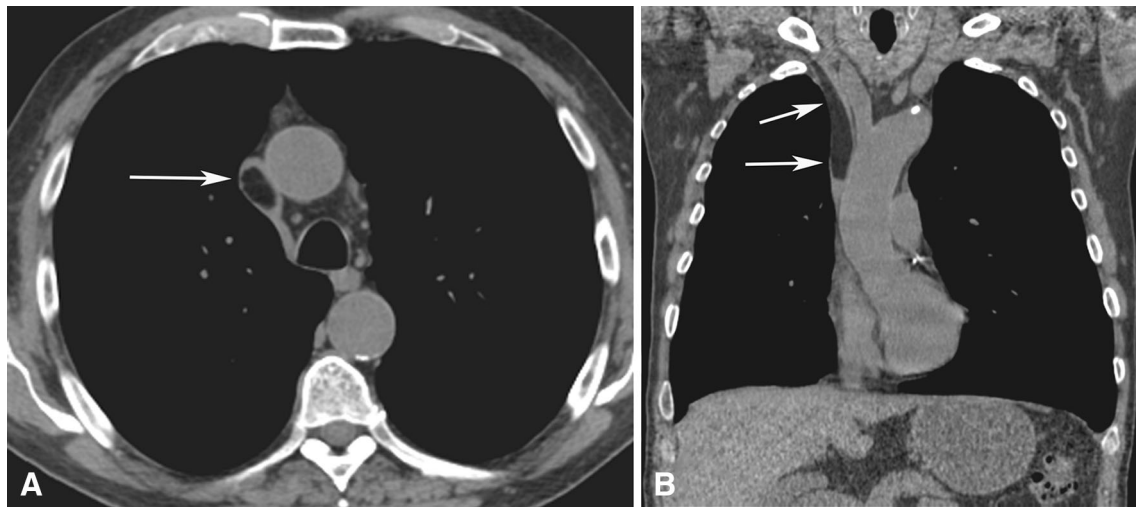


Fig. 1 Unenhanced chest CT showing a hypodense elongated lesion with fat density within the superior vena cava (*arrows*)

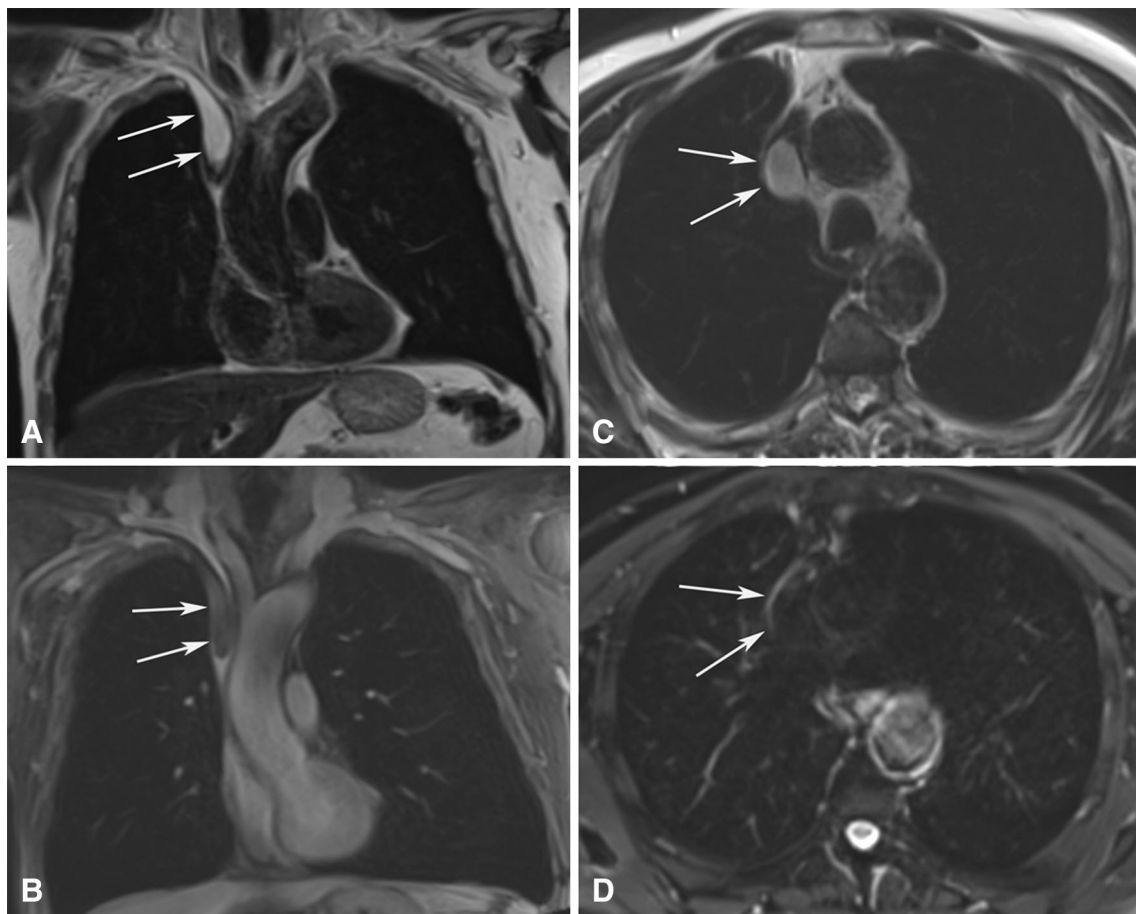


Fig. 2 Coronal T2-weighted sequence without fat saturation (**a**) and post-contrast coronal T1-weighted sequence with fat saturation (**b**) demonstrate a homogeneous mass inside the right superior vena

cava (*arrows*). Axial T2-weighted sequences without (**c**) and with (**d**) fat saturation show the fat component of the lesion (*arrows*)

liposarcoma, and the growing tumor can eventually induce symptomatic SVC obstruction or enter the right atrium.

Furthermore, surgical treatment is safe and requires neither prosthetic bypass nor lifelong anticoagulation therapy [1].

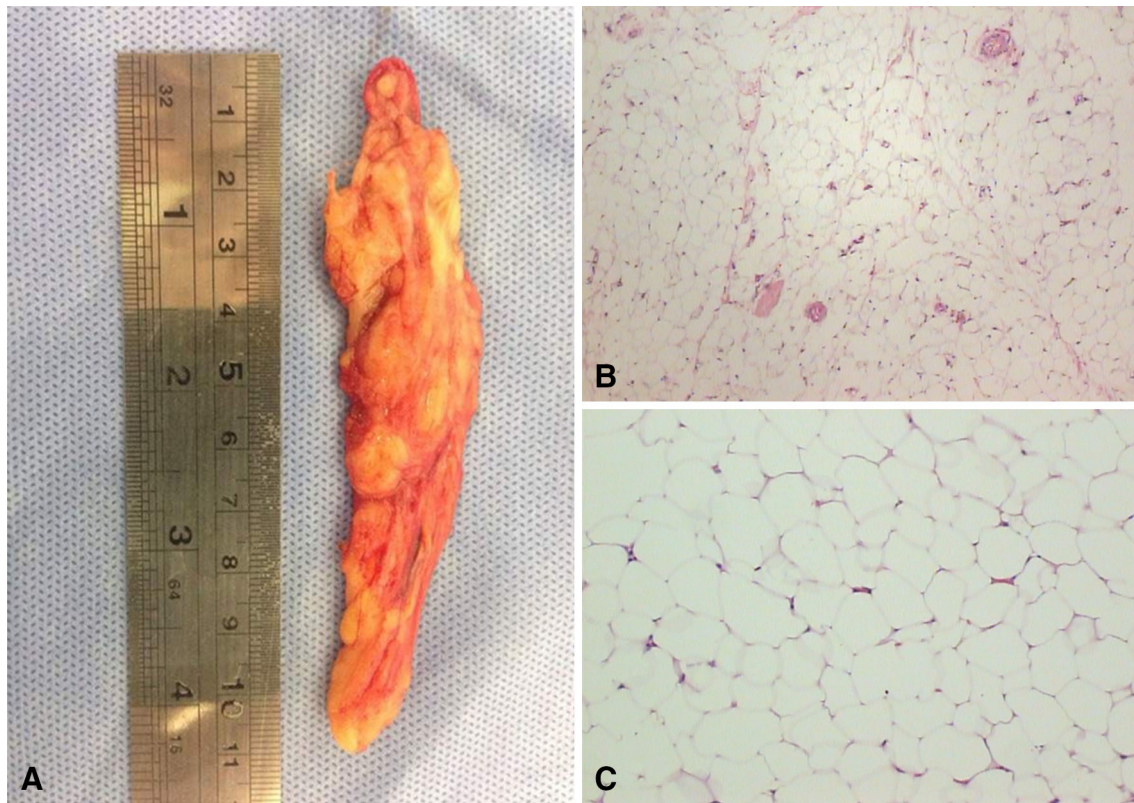


Fig. 3 **a** Gross anatomy of the tumor. **b, c** Microscopic examination showed well-encapsulated adipose tissue, confirming the diagnosis of lipoma [hematoxylin and eosin stain, ×40 (**b**) and ×200 (**c**) magnification]

Compliance with Ethical Standards

Conflict of Interest None.

References

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