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SHORT REPORT

A Case of Intra and Extra-vascular Lipoma of the Subclavian Vein

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We present the case of an asymptomatic 60 year old man with an incidental finding of a tumour lying adjacent to the superior vena cava on echocardiography. Duplex ultrasonography and CT scanning demonstrated a tumour lying adjacent to the subclavian vein as well as within the superior vena cava. At operation a lipoma was found lying adjacent to the subclavian vein. This passed within the vein lumen more proximally. The tumour was successfully removed and all major veins remained patent at follow-up one month later. Histological examination confirmed that the tumour was lipoma without evidence of malignant change.

Keywords: Lipoma; Subclavian vein; Intra-vascular tumour.

Introduction

Lipomas are the most common soft tissue tumours; they occur in 1% of the population. They are mesenchymal in origin, benign, slow-growing tumours, formed by fatty cells, with a lobulated shape and enclosed by a thin fibrous capsule. The tumour can originate at any site in the body that contains adipose tissue, but most frequently arises in subcutaneous tissues of the upper part of the body and proximal extremities.[1]

Primary venous tumours are, on the other hand, uncommon and usually malignant lesions. Leiomyoma is the must common benign venous tumour.[1] Few cases of venous intravascular lipomas have been described in published literature. These usually arise in the inferior vena cava (IVC) and are considered an incidental finding with a frequency of 0.35% in abdominal CT examinations. They may also arise from the iliac-femoral axis, from superior vena cava (SVC) and only in one case from the brachiocephalic vein.[2–5]

We present a case of right, peri-subclavian vein lipoma, growing into right brachiocephalic vein, where it clearly became an intravascular lesion.

Case Report

A asymptomatic 60-year-old man was referred to our unit for management of a mass lying adjacent to the superior vena cava. This had been detected during routine echocardiography. We undertook duplex ultrasonography which confirmed the presence of the mass and shoved no sign of thrombosis in the subclavian vein or superior vena cava. We could not establish the origin of the mass. CT scanning was performed which showed a fatty ''extravascular'' mass 10 cm in length, lying adjacent to the right subclavian vein, snd reaching as far as the first portion of SVC. At this level it appeared to be an ''intravascular'' lesion. (Fig. 1)

In order to achieve satisfactory exposure of the tumour we made a large incision (cervico-sternotomy) to allow safe resection. In the operative field were the. SVC, brachiocephalic vein, right subclavian vein and right jugular vein which were controlled with vascular slings. We found a mass lying adjacent to the right subclavian vein. The mass lay outside the

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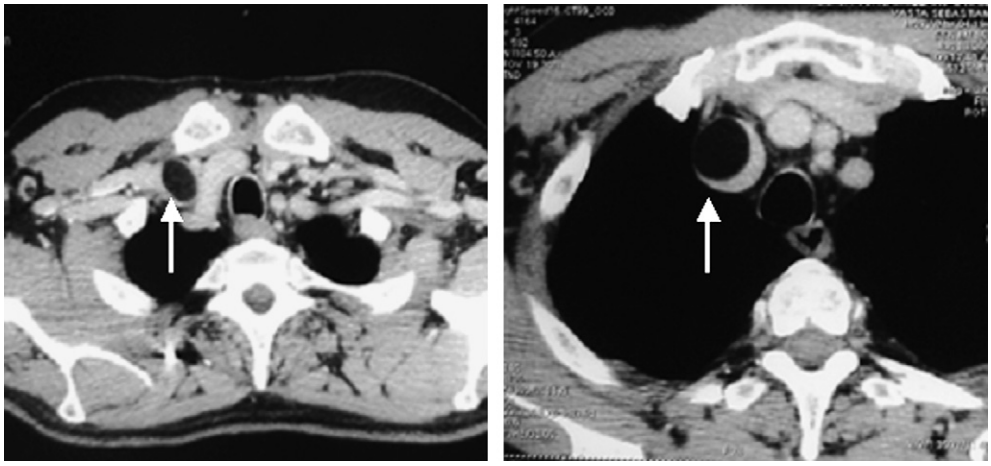

Fig. 1. CT images: on the left the extravascular portion of tumour; on the right intravascular portion of the tumour in the SVC.

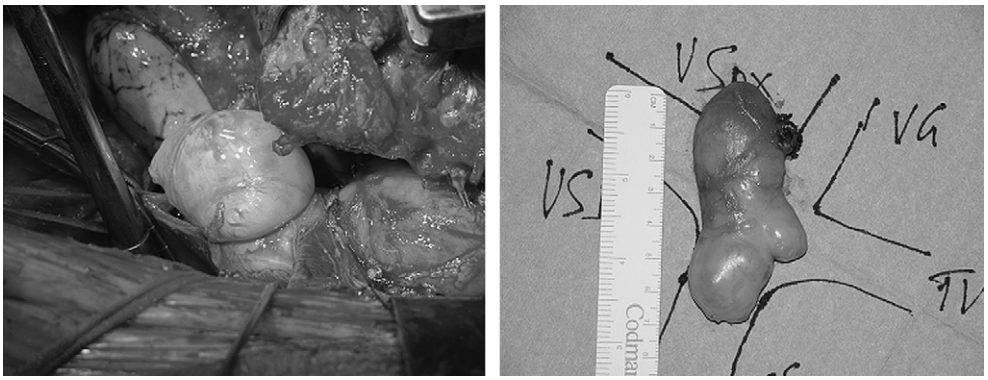

Fig. 2. Operative pictures: on the left the extravascular portion of tumour; on the right the fatty mass following resection.

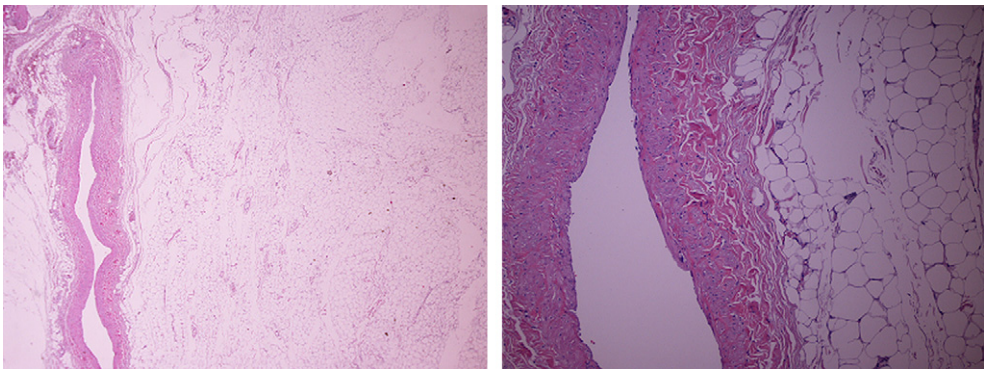

Fig. 3. Microscopy findings. Benign fatty tumour without evidence of malignant change.

vein but after a distance of 2 cm crossed the venous wall and lay within the lumen of the vein as it approached the SVC. As we mobilising the tumor, a tear appeared in the subclavian vein at the point of entry of the mass into the lumen of the vein. The tumour was attached to the internal venous wall for 2 cm. Once these connections had been divided it came out spontaneously. We repaired the venous wall with a continuous Prolene 7/0 suture. (Fig. 2)

Postoperatively, the patient was given subcutaneous low molecolar heparin followed by oral anticoagulation with warfarin.

Histological examination confirmed the fatty nature of the tumour without evidence of malignant transformation. (Fig. 3)

At 1 month follow-up duplex ultrasonography confirmed that the right subclavian vein had remained patent.

Discussion

Intravascular lipomas are rare, extra and intra vascular lipomas are very rare. The literature on pathology gives two hypothesis to explain this peculiar presentation: the tumour may arise from the vein wall or external to it (fatty perivascular tissue). In the first instance, the tumour grows into the vein wall protruding outside and inside the lumen (but the media layer of veins is poorly developed with few fatty cells). The second hypothesis suggests that the tumour arises from perivascular tissue, infiltrates the vein wall and then protrudes into the lumen (unusual attitude for a benign tumour).[2,3]

In our case we think that the tumour arose from perivascular tissue and then crossed into the vein without infiltrating the wall but by mechanical intrusion (invagination).

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