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CASE REPORT

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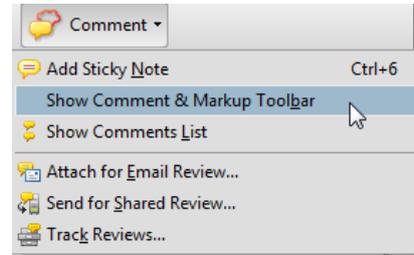
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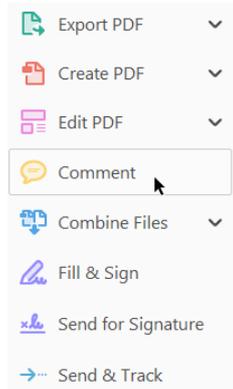
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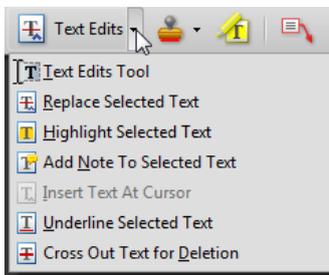The toolbar shown below will then be displayed along the top.

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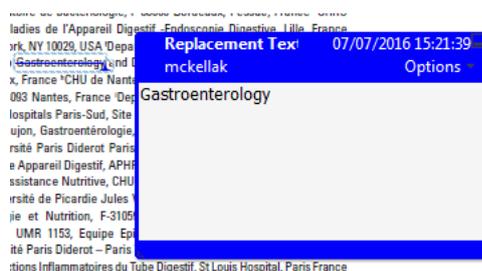
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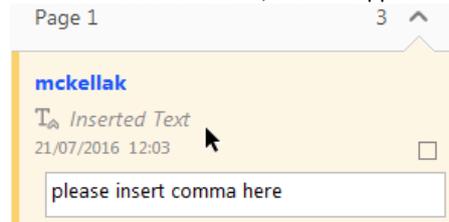
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CASE REPORT - THORACIC

CASE REPORT

Mediastinal liposarcoma: a rare visceral mediastinal tumour

AQ1

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Abstract

Liposarcoma is the second most common type of soft tissue malignancy in adults. They are malignant tumours with a mesenchymal origin. Mediastinal liposarcoma accounts for <1% of mediastinal tumours and 2% of liposarcoma. We report a case of mediastinal liposarcoma that presented with cardiac tamponade, 25 years after the initial liposarcoma in the popliteal fossa.

Keywords: Mediastinal liposarcoma • *En bloc* resection • Metachronous tumour

INTRODUCTION

AQ5

A 55-year-old gentleman presented with increasing shortness of breath for the past 2 weeks. Chest radiography revealed an enlarged cardiac shadow with widening of the mediastinum. An echocardiogram was performed and showed global pericardial effusion with features of pericardial tamponade. There was also a mass noted lateral to the left ventricle. Urgent pericardiocentesis was done and 1.3 l of haemorrhagic fluid was drained.

Computed tomography (CT) thorax revealed a left posterior pericardial mass with minimal right pericardial effusion. He subsequently underwent a left video-assisted thoracoscopic surgery biopsy of the mass which turned out to be a myxoid liposarcoma. The mass was found to be densely adhered to the pericardium. He has a history of left knee liposarcoma at the popliteal fossa and underwent complete surgical excision in 1990, with no evidence of recurrence since then. The mass was labelled as a possible metastatic lesion from the primary liposarcoma of his knee.

He underwent a cardiac magnetic resonance imaging (Fig. 1A) which showed a soft tissue mass ($4.6 \times 4.5 \times 5.0$ cm) arising from the pericardium adjacent to the left ventricle with involvement of the descending thoracic aorta, thoracic oesophagus and left hemidiaphragm. As the lesion was invading the surrounding structures, he was then subjected to 25 cycles of neoadjuvant radiotherapy in November 2016; a repeat CT scan a month later showed significant reduction in tumour size ($2.1 \times 2.6 \times 3.5$ cm) with a clear fat plane between the mass and adjacent structures plus no evidence of distant mestastasis (Fig. 1B). In view of this, we planned for a curative resection of his tumour. We carried out a positron emission tomography-CT scan which confirmed no FDG-avid lesions elsewhere.

The patient then underwent a left posterolateral thoracotomy with *en bloc* resection of the left pericardial mass and implantation of a prolene mesh over the pericardial defect with plication of the left hemidiaphragm (Fig. 1D). The tumour which had a solid and cystic component was seen to be arising from the pericardium with involvement of the phrenic nerve and close attachment to the lateral epicardial surface of the heart which was removed *en bloc* (Fig. 1C). An on-table frozen section of the epicardial surface adjacent to the tumour showed no evidence of malignancy. The histopathology results confirmed a myxoid liposarcoma. The patient recovered well from his surgery. He has remained well since. He is currently on a 6-month follow-up and his latest repeat CT thorax showed no evidence of tumour recurrence.

DISCUSSION

Despite metastatic lesions of mediastinal liposarcoma being more common than the development of primary mediastinal liposarcoma itself, the incidence of metastasis to the pericardium remains extremely low, with only 10 cases that have been reported in the literature up to the year 2015 [1, 2]. The time interval between the initial presentation of liposarcoma and the metastasis can be quite long, ranging from 7 to 25 years [2].

It is difficult to label this tumour as a metastatic lesion as the previous lesion was in the knee 25 years ago. A primary metachronous tumour might be a possibility here but there were no previous histology slides to compare. Hence, we decided to label this tumour as a mediastinal liposarcoma, although a metastatic lesion is still possible [2].

The first-line treatment for primary liposarcoma is surgical excision with complete resection of the tumour whenever possible [1, 3]. Local recurrence or distant metastasis can occur many years after treatment of the primary tumour [1, 4]. Although there is no standard treatment for visceral mediastinal metastasis, radical surgical resection of the metastatic tumour provides the
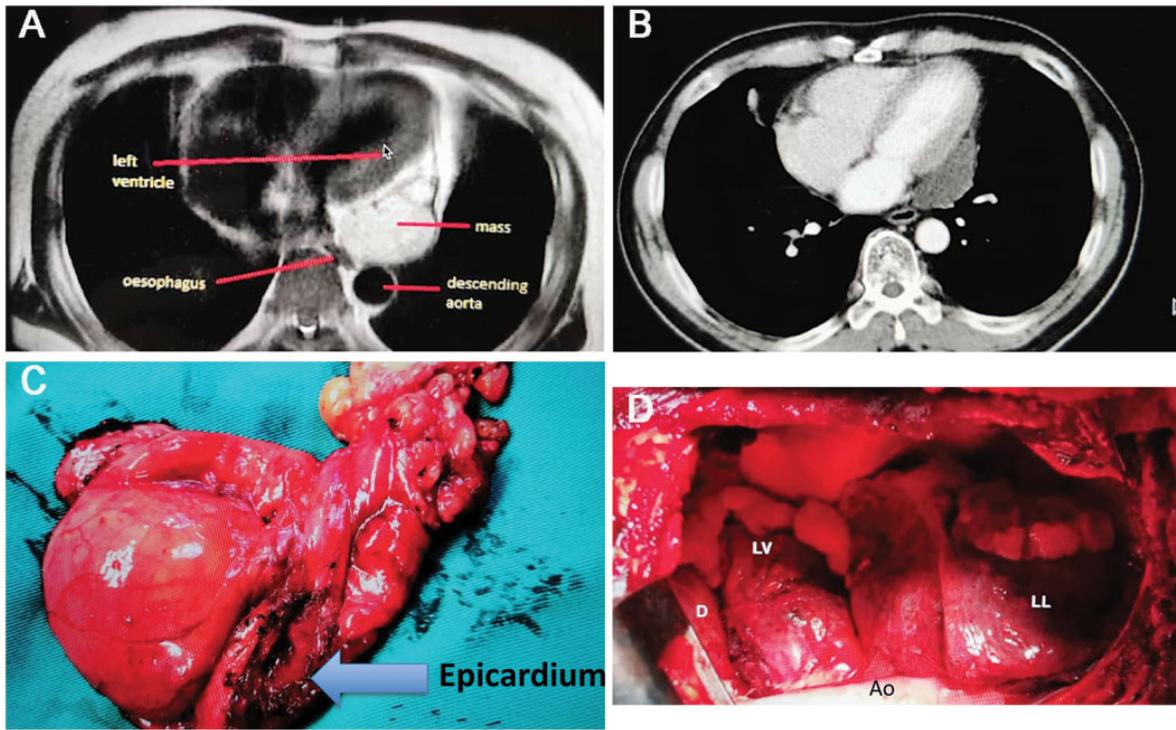
Figure 1: (**A**) Cardiac magnetic resonance imaging demonstrating adherence of the mass to the descending aorta and oesophagus. (**B**) Computed tomography thorax after completion of neoadjuvant radiotherapy showing a reduction in tumour size. (**C**) Left pericardial mass which has been resected *en bloc*. (**D**) Tumour has been successfully resected away from the lateral epicardial surface of the heart. Ao: aorta; D: diaphragm; LL: left lung; LV: left ventricle exposed.

highest chance of long-lasting survival [1, 4, 5]. When combined with neoadjuvant radiotherapy, this may significantly reduce the rate of disease progression and recurrence [1, 4, 5].

CONCLUSION

Mediastinal liposarcoma can prove to be a diagnostic and treatment challenge. Aggressive surgical resection with R0 resection is the treatment of choice and combination with perioperative radiotherapy may help to achieve this and reduce recurrence.

Conflict of interest: none declared.

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