

Case Report: Metastatic Liposarcoma

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Patient history

42-year-old female. Metastatic Liposarcoma. Primary in thigh treated 2 years prior. Regional pelvic metastases detected on routine follow-up MR. PET negative. Whole Body MRI performed to identify more distant secondary lesions.

Protocol

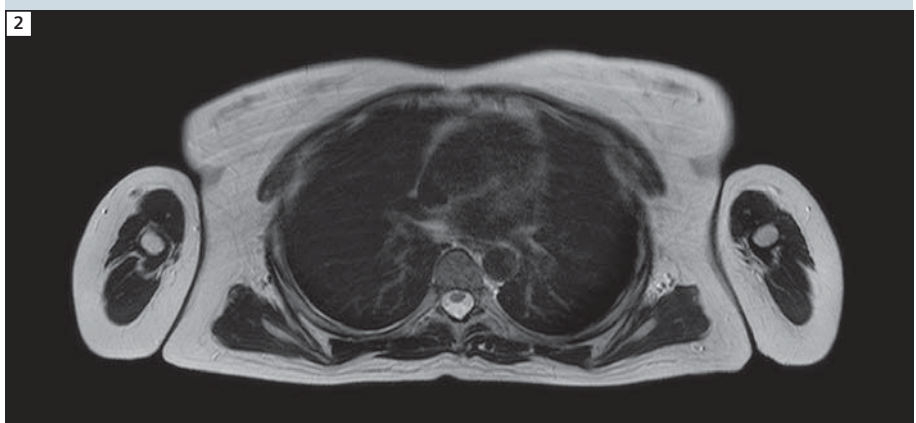
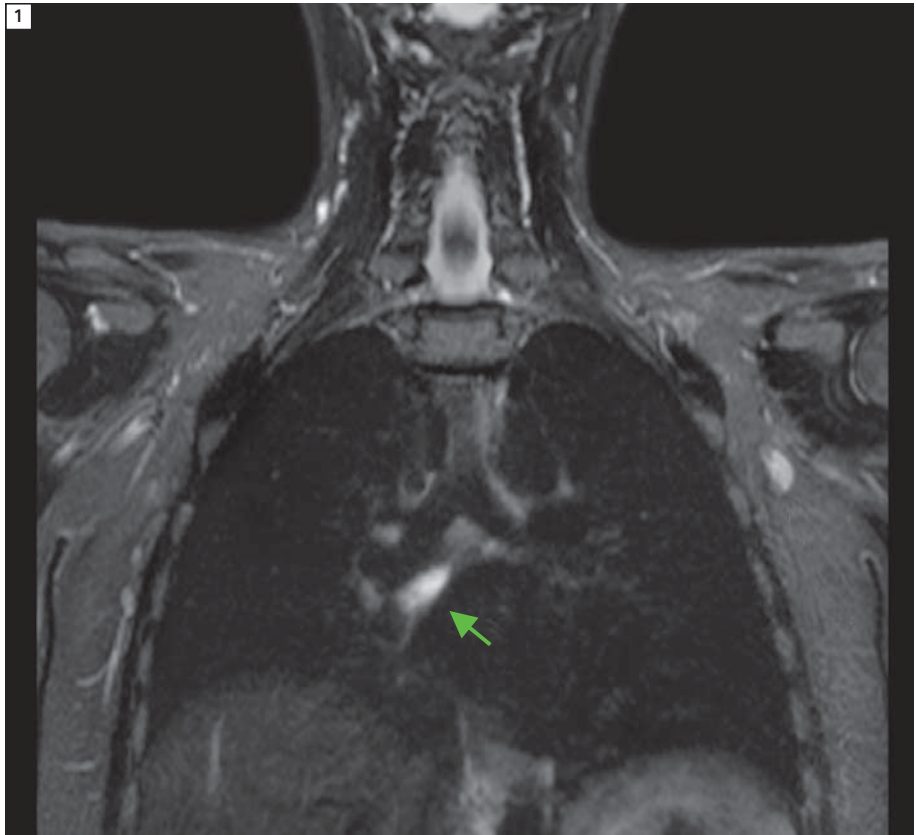
Standard Siemens imaging sequences were used. Coronal T1 and STIR of the whole body, 5 mm slice thickness. Transverse T2 and T1 through identified lesions, 8 mm slice thickness. Post contrast coronal and transverse FatSat T1 to match the pre contrast T1-weighted images.

Image findings

Numerous lesions are demonstrated throughout the body. Small cervical lymph nodes appear benign. A 1 cm lesion in the left thyroid is most likely a primary thyroid nodule or cyst. High T2 intensity structure in the central mediastinum could represent a small pocket of pericardial fluid. It does not appear to enhance although post contrast sections are marred by pulsation artefact (Figs. 1, 2).

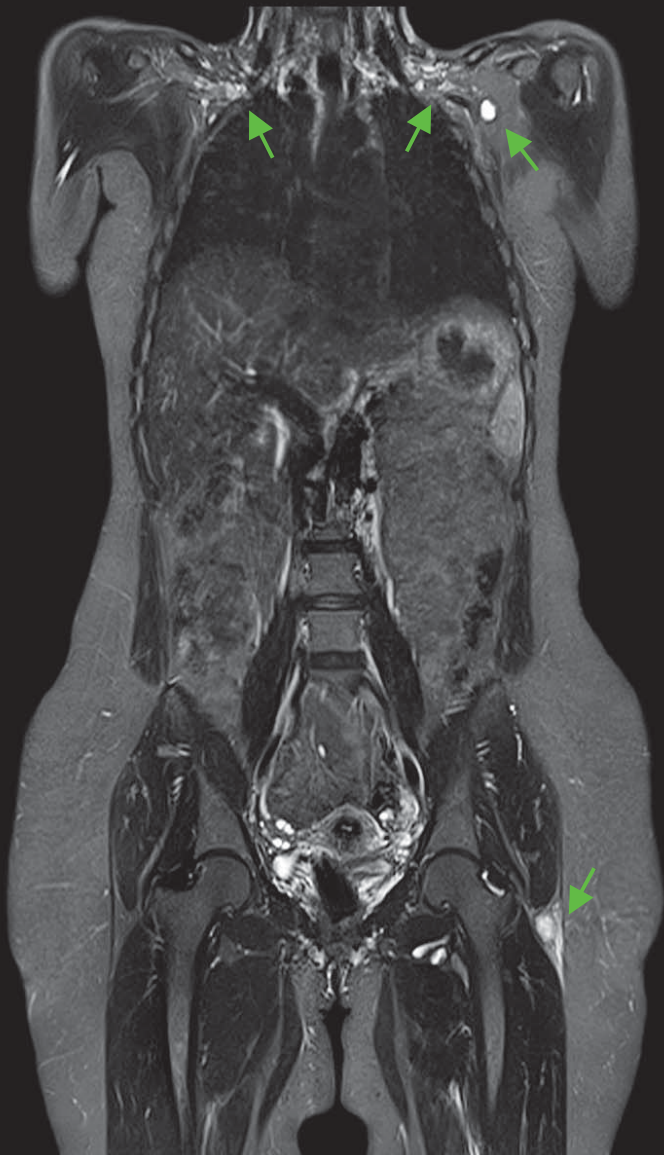
Numerous high signal foci in the supra-clavicular regions bilaterally (Fig. 3), are due to venous structures and small nodes. Small soft tissue lesions in the axillary tails of the breasts may also represent small nodes. A 13 x 8 mm lesion that is of higher T2 intensity than nodes, lying in the left axilla deep to pectoralis minor is likely to be a metastasis (Figs. 4, 5).

There is a large metastasis that wraps around the medial border of the right scapula. The deeper locule measures 23 x 14 x 20 mm and invades the medial fibres of subscapularis.



1 2 High signal intensity non-contrast-enhancing lesion is present in the central mediastinum above the left atrium, that could represent a pocket of pericardial fluid. A definitive anatomical correlation on non-ECG gated transversal images, however, was not possible because of pulsation artifacts.

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3 A small nodular lesion is well demonstrated in the left axilla, suspicious of a metastasis (see also Figs. 1 and 5). Another noticeable soft tissue lesion can be identified close to the left greater trochanter major within the muscle. Additionally, numerous lesions in the supraclavicular region can be identified, but based on this examination, it is difficult to differentiate between venous structures and small nodules.

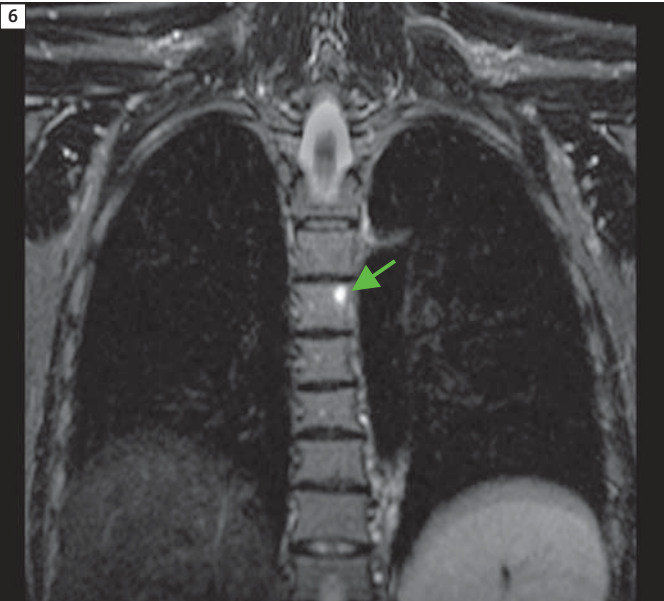
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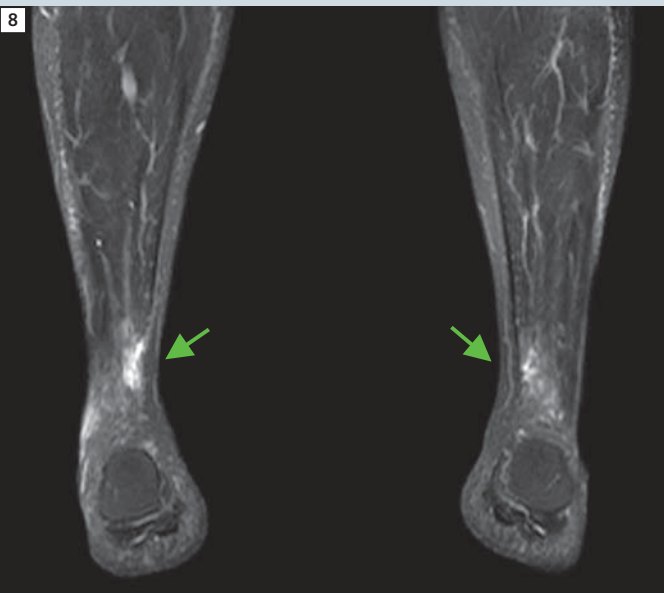
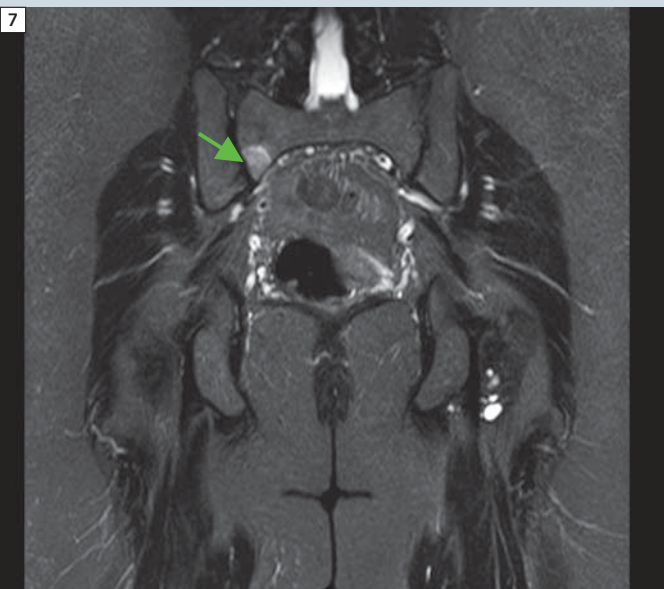
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4 5 Large lesion wrapping around the medial border of the right scapula, suspicious of metastatic spread of the liposarcoma.



6 7 Bone involvement of the pelvis and the 5th thoracic vertebra is shown in figures 6 and 7.



8 The signal alteration of the Achilles tendons as demonstrated in figure 8, however, is consistent with inflammation not metastatic spread of the liposarcoma.

The more superficial component measures 2.6 x 1.8 x 2.1 cm and invades the infrapsoas.

There is a small T2 hyperintense lesion in the T5 vertebral body (Fig. 6).

The pelvic lesions, in the soft tissues around the left hip and in the bones of the right sacrum and left ilium, were demonstrated on a targeted study 11 days prior and have not changed (Fig. 7).

The non-enhancing areas of high T2 signal adjacent to the musculo-tendinous junctions of the achilles tendons are likely inflammatory or degenerative in origin (Fig. 8).

Summary

The whole body MRI study demonstrates multiple lesions, consistent with metastases, in the bones and soft tissue of the pelvis, shoulder regions and T5 vertebra. These were not demonstrated on a PET study. There may be other small metastatic lesions but these would be difficult to differentiate from normal structures such as small lymph nodes and veins.

Image acquisition was performed with a 1.5T MAGNETOM Avanto system, using Tim (Total imaging matrix) and the 12-channel Head Matrix coil, Neck Matrix coil, 2 Body Matrix coils and the Peripheral Angio Matrix coil.

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