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62 YEAR OLD FEMALE. PREVIOUS REVIEW OF CORE BIOPSY FROM 9CM RIGHT UPPER THIGH MASS, SENT FOR FURTHER OPINION BY DR FLEMING: MYXOID SMOOTH MUSCLE TUMOUR OF UNCERTAIN MALIGNANT POTENTIAL. THE PATIENT ALSO HAS LARGE RIGHT SHOULDER MASS AND ?SUBMENTAL LYMPH NODES. CLINICALLY AT REFERRING INSTITUTION THIS WAS PROBABLE LYMPHOMA. PET-POSITIVE. THIS SPECIMEN: CORE BIOPSY FROM CLINICALLY AGGRESSIVE LESION CAUSING DESTRUCTION OF THE RIGHT SHOULDER.

#### MACROSCOPY

Biopsy, right shoulder: 7 cores ranging from 10-21mm. 1-7) AE.

#### HISTOLOGY

Cores of skeletal muscle and fibroadipose tissue, with skeletal muscle showing focal surrounding fibrosis, although no definite infiltration by tumour. The fibrous tissue contains relatively cellular tumour composed of, at low magnification, relatively uniform spindle cells with elongated or ovoid nuclei, often with intranuclear inclusions, and moderate amounts of eosinophilic cytoplasm, frequently in a myxoid background. The mitotic index is up to 9/10hpf (slide 7), with likely occasional atypical forms (slide 4). Cellular atypia varies from mild to focally moderate, with enlarged hyperchromatic nuclei. Focally there is cellular degenerate, with loss of nuclei in lesional cells (eg slide 1), suggestive of incipient necrosis. Focally there is also a small area with karyorrhectic debris and cellular degeneration (slide 4), suggestive of necrosis, although this is within the adjacent fibrous tissue and not conclusively within the tumour.

The tumour is diffusely and strongly positive for desmin, SMA, h-caldesmon

The tumour is negative for S100 protein, SOX10, MelanA, HMB45, myogenin, CD34, STAT6, AE1/AE3, ER and PgR. The proliferation fraction by MIB1 is variable from low to moderate.

The morphology here appears essentially similar to that described in the tumour in the previous biopsy from the right upper thigh (482/20). The features are in keeping with a myxoid smooth muscle neoplasm, which shows definite atypia and relatively prominent mitotic activity. The clinical/radiologic picture is noted, and this is interpreted as myxoid leiomyosarcoma, grade 1-2 in this material. Clinical correlation is required to assess the relationship of this neoplasm to the right thigh mass, and whether there are other sites of disease.

Dr Magnus Hallin/Dr Khin Thway

T: soft tissue t shoulder m leiomyosarcoma

~~Slides 1-2 look dodgy with likely atypical mitotic figures (slide 2), much of other cores look bland but this is likely malignant albeit this is difficult with smooth muscle tumours~~