ROYAL MARSDEN NHS FOUNDATION TRUST - HISTOPATHOLOGY REPORT
750115: [redacted] - NHS Number: 639 038 6249

Lab No	6844/20	**Reported**	15 Jul 2020	**Pathologist**	DR HALLIN/DR THWAY
Source	Internal Operation	**Sample Received**	9 Jul 2020	**Ward**	WILSON
Sex	MALE	**Age**	21	**Branch**	FULHAM ROAD
Clinical Diagnosis		**Operation**	8 Jul 2020	**Consultant**	STRAUSS,MR D C

SITE	DIAGNOSIS
SOFT TISSUE AND OTHER A CONNECTIVE TISSUE (T1X005)	MORPHOLOGIC DESCRIPTION ONLY / SPINDLE CELL SARCOMA (Malignant) (M09350 / M88013)
B THIGH (TY9100)	MORPHOLOGIC DESCRIPTION ONLY / SPINDLE CELL SARCOMA (Malignant) (M09350 / M88013)

21 YEAR OLD MALE. CORE BIOPSY IN MARCH 2020 OF RIGHT LATERAL THIGH MASS (PREVIOUSLY SEEN BY DR TAYLOR AT BSUH): FEATURES IN KEEPING WITH SPINDLE CELL SARCOMA WITH STRONG MULTIFOCAL CD34 EXPRESSION, WHICH MIGHT REPRESENT FIBROSARCOMATOUS CHANGE IN DERMATOFIBROSARCOMA (WHICH WAS FAVORED). ANOTHER POSSIBILITY WAS OF MPNST, ALTHOUGH THERE WAS INSUFFICIENT EVIDENCE FOR THIS. THIS SPECIMEN: EXCISION OF SARCOMA, RIGHT THIGH. NO RECORD OF NEOADJUVANT TREATMENT.

MACROSCOPY
Sarcoma right thigh: an unorientated elliptical excision specimen measuring 185x100x52mm. The superficial surface bears an ellipse of skin measuring 183x87mm. Skin is unremarkable. The deep surface is covered in a smooth facial layer. The surgical resection margins have been inked peripheral = green/blue and deep = black. Specimen is serially sliced across the short axis revealing a circumscribed heterogeneous hemorrhagic cream circumscribed tumor mass measuring 67x84x48mm. The tumor mass abuts the deep resection margin and lies 12mm from closest peripheral resection margins (green). Necrosis is approximately 25%. Blocks 1&2) Cruciates of ends. 3) Representative section of tumor to closest peripheral resection margins. 4) Representative section of tumor to deep resection margin. 5) Representative section of tumor to superficial resection margin. 6) Tumor to opposite peripheral resection margin. 7-9) Representative sections of tumor. Tissue and tumor remain.

HISTOLOGY

Sections show fibroadipose tissue containing infiltrative cellular tumor with features similar to those in the previous biopsy (3928/20), and composed of predominantly spindle cells with minimally to only mildly atypical, elongated vesicular nuclei and scanty cytoplasm with prominent nuclear overlapping. Only focally, the cells are more ovoid with similar vesicular nuclei. There is relatively minimal stroma, with some focal areas show mild myxocollagenous change. No marked storiform architecture is seen. Focally (eg slide 4), the tumor is seen to infiltrate the surrounding adipose tissue as variable strands, although without a marked honeycomb pattern. There is prominent hemorrhage and variably sized cyst formation, with cysts lined by tumor cells and containing blood or fibrinoid material, and there are frequent hemosiderin-laden macrophages, individually and in sheets. The mitotic index is up to 21/10hpf, without discernible atypical forms. Macroscopically, there was approximately 25% necrosis; histologically, while there is prominent fibrinoid material, no conclusive tumor necrosis is noted, but prominent necrosis was present in previous biopsy (3928/20). No significant pathology is noted in the overlying squamous epithelium. The core biopsy showed multifocal strong expression of CD34, with most cells positive for CD99, with occasional nuclear expression of S100 protein; other markers were negative.

This is a high-grade spindle cell sarcoma with strong CD34 expression (grade 3). The morphology is most suggestive of fibrosarcomatous change in DFSP; however, no marked architectural features of dermatofibrosarcoma are identified. Molecular investigations are awaited for COL1A/PDGFB gene rearrangements to assess for dermatofibrosarcoma, with a further report to follow. The differential diagnosis includes malignant peripheral nerve sheath tumor. The prominent hemorrhage and cystic cavity formation are noted; the morphology and immunoprofile are not typical of angiomatoid fibrous histiocytoma, but molecular investigations are awaited to assess for this, as well as for infantile fibrosarcoma and synovial sarcoma, although the immunophenotype would make the latter unlikely. FISH for ALK gene rearrangement is also awaited, although the appearances are not supportive of a fibrous histiocytoma variant. Expert opinion will be sought from Prof Cyril Fisher of UHB/ the ROH Birmingham, with a further report to follow. The tumor is focally approximately 1.6mm from the deep margin, being separated from it by fibroadipose tissue. The tumor is at least 9mm from the nearest longitudinal margin. It is approximately 10mm from the nearest peripheral margin, and is 12.5mm from the other peripheral margin.

Dr Magnus Hallin/Dr Khin Thway