[redacted] 4913 20 747860

72 YEAR-OLD MALE, WITH PREVIOUS HISTORY OF EXCISION OF NON-INVASIVE, PAPILLARY TRANSITIONAL CELL CARCINOMA OF THE BLADDER (14511/18). THIS SPECIMEN: PLEURAL MASS BIOPSY (CLINICALLY ?PLEURAL FIBROMA/ MESOTHELIOMA), PREVIOUSLY REPORTED BY DR DOSHI IN MARCH 2020: SPINDLE CELL LESION, WITH DIFFERENTIAL DIAGNOSIS INCLUDING MESOTHELIOMA AND SOLITARY FIBROUS TUMOR. DR DOSHI FORWARDED THE MATERIAL SGH FOR FURTHER OPINION, WHERE IT WAS SEEN BY DR DONOVAN AND DR DU PARCQ: 'APPEARS TO REPRESENT A SPINDLE CELL NEOPLASM OF AT LEAST INTERMEDIATE GRADE. THE MORPHOLOGY AND IMMUNOPHENOTYPE ARE NOT SPECIFIC FOR A PARTICULAR CELL LINEAGE'; ADVISED REFERRAL TO RMH FOR SPECIALIST SOFT TISSUE OPINION. PET CT (APRIL 2020) AND CT (MARCH 2020): PATCHY MILD TO MODERATE UPTAKE WITHIN THE ANTERIOR RIGHT LUNG, CORRESPONDING TO THE PLEURAL-BASED SOFT TISSUE MASS SEEN ON CONTRAST CT. METABOLICALLY, THIS MEASURES APPROXIMATELY 60 X 100 MM. THERE IS NO DESTRUCTION OF THE OVERLYING RIBS. THE SOFT TISSUE ABNORMALITY CONTAINS SMALL FLECKS OF CALCIFICATION. LARGE RIGHT-SIDED PLEURAL EFFUSION. NO AVID MEDIASTINAL OR HILAR NODES. NO ADDITIONAL CLINICALLY RELEVANT CT FINDING. RADIOLOGIC OPINION: PRESUMED MALIGNANT MODERATELY AVID LARGE PLEURAL BASED SOFT TISSUE MASS ANTERIOR RIGHT LUNG. NO EVIDENCE OF AVID EXTRATHORACIC DISEASE

MACROSCOPY

HISTOLOGY

The features are as previously described by colleagues at Epsom and St Helier and SGH, and show moderately cellular neoplasm, composed of loose fascicles of mildly to moderately atypical spindle cells with ovoid, elongated, sometimes buckled nuclei with fibrillary cytoplasm, in delicately collagenous to in areas myxocollagenous stroma with some occasional interspersed keloid-like fibers. There is some erythrocyte extravasation and a very patchy chronic inflammatory infiltrate including small numbers of eosinophils. The mitotic index is up to 6-7/10hpf (these are plump (eg slide 2) but conclusive atypical forms are not seen), and although there are focal areas of fibrinoid material intermingled with myxoid stroma, no definite necrosis is noted. Focally (slide 2) there is a gland-like focus, comprising an essential monolayer of plump epithelioid cells with no definite atypia and focal possible ciliation. No other normal structures are noted. No morphologic epithelial differentiation is identified.

Immunohistochemistry from the referring institution shows the tumor to be diffusely positive for bcl-2, with weak nuclear PAX8 in many cells of uncertain significance. There is only possibly very scanty SMA and scanty focal desmin expression. The tumor is negative for AE1/AE3 (positive in likely metastatic only) MNF116, CAM5.2 (likely positive in intervening mesothelial cells only), CK7, CK20, CK5, calretinin, WT1, TTF1, CD34, S100 protein, HMB45, MelanA and h-caldesmon. The proliferation fraction by MIB1 is essentially high. At RMH, the tumor is negative for CDK4, p16, myogenin, and SOX10.

This is a spindle cell neoplasm with predominant mild atypia and mitotic activity, which is difficult to characterize. This is presumably at least low (to possibly intermediate)-grade malignant. The morphology is not typical of sarcomatoid carcinoma or sarcomatoid mesothelioma, and the immunoprofile also does not support these entities. In the absence of specific differentiation, this could therefore represent spindle cell sarcoma (NOS), at most grade 2 in this material; however, the features are unusual, and clinical and radiologic correlation are required, including to assess for the presence of any disease at other sites. There is no conclusive evidence of this representing MPNST.

FISH is awaited to assess for MDM2 amplification status, as well as for SS18 gene rearrangement, although dedifferentiated liposarcoma and synovial sarcoma appear unlikely.

Dr Magnus Hallin/Dr Khin Thway

T soft tissue t pleura
m malignant neoplasm m morphological description only