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46 YEAR OLD MALE. CORE BIOPSY FROM WITH LARGE PELVIC/ ABDOMINAL MASS IN JULY 2019: MALIGNANT, CD34-NEGATIVE SOLITARY FIBROUS TUMOUR (NAB2-STAT6 FUSION DETECTED AT ROH BIRMINGHAM, PROF CYRIL FISHER). PATIENT RECEIVED NEOADJUVANT RADIOTHERAPY (COMPLETED OCT 2019), WITH EARLY TREATMENT RESPONSE (FROM 20.4 X 17.1 X 20 CM TO 18.8 X 15.9CM X 19.5CM). THIS SPECIMEN: RESECTION OF MASSIVE SOLITARY FIBROUS TUMOUR, PELVIS + RIGHT HEMICOLECTOMY + PARTIAL CYSTECTOMY, ALONG WITH NODULE IN FRONT OF THE BLADDER, WHICH CLINICALLY IS PROBABLY PART OF THE MAIN SPECIMEN.

MACROSCOPY

A. Sarcoma in pelvis + right hemicolectomy: pot contains a large firm unorientated tumour mass partially covered in skeletal muscle and smooth shiny connective tissue with attached hemicolectomy. The specimen measures 184 x 175 x 185mm. The attached hemicolectomy is comprised with ileum caecum and right colon. The ileum measures 173mm in length and 25mm in diameter. The caecum to the right colon resection margin measures 130 in length and 53mm in diameter. On opening the bowel mucosa appears normal with no obvious macroscopic pathology seen. The caecum has an appendix measuring 57mm in length and 7mm in diameter. The appendiceal tip abuts the tumour. The tumour mass measures 184 x 182 x 124mm. The outer margins appear in tack. On slicing the tumour is heterogenous with necrotic haemorrhagic areas and cream nests. The tumour does not breach the surgical resection margins macroscopically. Necrosis is approximately 5-10%. The tumour mass abuts a portion of the ileum, but no invasion seen. On further slicing of the caecum and appendix there is possible involvement of the appendiceal tip with the tumour. Blocks: 1) Ileum resection margin; 2) Right colon resection margin; 3) ileum mucosa adjacent to tumour; 4) normal appendix adjacent to caecum; 5) Central transverse section of appendix; 6) section of appendix with possible tumour involvement; 7) tumour directly adjacent to appendiceal tip ?; 8) smooth shiny serosal resection margin to tumour; 9) roughened resection margin to tumour; 10-15) representative section of tumour. Tissue and tumour remains.

B. Nodule in front of urinary bladder: pot contains an unorientated irregular piece of fatty tissue measuring 65 x 40 x 22mm. On palpation there is a firm nodular area within the tissue. On slicing the tissue shows normal lipomatous tissue with fibrous areas containing vessels no obvious macroscopic lesion stands out. Blocks: 16-20) Representative sections. Tissue remains

HISTOLOGY

A1-15. Sarcoma in pelvis, and right hemicolectomy:

Sections show fibrous and adipose tissue containing extensive, viable tumour, consistent with malignant solitary fibrous tumour, composed of loose fascicles of mildly atypical ovoid and spindle cells, which is seen to infiltrate skeletal muscle (eg slide 9). The tumour is largely composed of cellular distributions of spindle cells with features similar to those described in the previous core biopsy. The mitotic index is variably, and is up to approximately 5-6/10hpf. There are prominent areas of myxoid change, as well as fibrosis and fibrinoid material, and focally within this material there are tumour ghost cells, consistent with likely tumour necrosis. Some of these changes are likely secondary to previous radiotherapy, but most of the tumour appears viable, with viable tumour estimated to accounting for approximately at least 60-70% of the tumour area. Focal prominent lymphovascular invasion is noted (slide 9)

The tumour is approximately 2mm from the smooth, possibly serosal, inked resection margin and is focally approximately 1mm from the 'roughened' resection margin, from which it is separated by fibroadipose tissue and skeletal muscle. The ileal and right colonic resection margins show essentially unremarkable small and large bowel wall, with no tumour or other significant pathology. Although there is an area of lobulated, bland smooth muscle (slide 15), conclusive features of bladder/ bladder wall are not identified. The section from the appendiceal tip shows no definite normal appendix and appears to show extensive obliteration by tumour. The mesoappendix shows tumour, without definite infiltration of the muscularis propria; no other significant pathology is noted in the appendix.

B16-20. Nodule in front of urinary bladder:
Sections show a vaguely nodular piece of tissue comprising fibroadipose tissue, with the largest component showing adipose tissue of mature type, with prominent relatively sparsely cellular septa, often expanded and mildly fibrotic, containing plump spindle cells without definite atypia. There is prominent vascularity, with large vessels, and areas of older, organising thrombus with haemosiderin deposition, with occasional thrombi almost completely occluding large vessel walls. In areas, there are thick smooth muscle bundles in keeping with bladder wall, although no identifiable epithelium. The fibrotic process focally involves the likely bladder wall. No featuresof viable solitary fibrous tumour, or of obvious treated SFT are identified.

The features suggest a scarring process of uncertain aetiology. Although the history of recent irradiation is noted, the features do not support this representing a previous nodule of SFT with complete treatment response. The nature of this fibroadipose tissue nodule is therefore unclear, but no conclusive features of atypia or malignancy are seen. **FISH for MDM2 amplification status is awaited to assess for the possibility of a nodule of lipoma-like well-differentiated liposarcoma,** with a further report to follow.

Dr Magnus Hallin/Dr Khin Thway

T: soft tissue t pelvis solitary fibrous tumour malignant