64 year old man. 15cm abdominal mass, abuts liver, compresses IVC, displaces duodenum. CT biopsy

Case 9
Sheets of partly necrotic, cellular tumour
Loose aggregates of epithelia cells
❖ Monotonous. Loosely cohesive

❖ Nuclear enlargement, cytoplasmic clearing, delicate cell membranes
• Bands of fibrous stroma

• No fascicular arrangement, myxoid change
Necrosis, pleomorphism, mitotic activity, nucleoli, cytoplasmic clearing, delicate cell membranes, lymphocytes
Immunochemistry

- C-kit: positive
- SMA: focal
- CD34: negative
- Dog 1: negative
- CD45, CD20: positive
- Melanocytic markers: neg
- Keratin: focal
Diagnosis: Seminoma

❖ OCT 4 also positive. OCT4, SALL4 and C-kit positivity supports seminoma
❖ PET shows paravertebral nodal disease. No testicular mass. Can regress completely
61 year old man. Polypectomy, transverse colon

Case 10
3 polyps like this, 4th a tubular adenoma

- Lamina propria expanded by a spindle cell proliferation. Isolated cells enlarged and hyper chromatic. Rare mitoses. No ganglion cells.
Surface epithelium attenuated but intact. No dysplasia of the crypts. No extravasation of blood, no atypical vascular proliferation, no pigment
Some cells are vacuolated
Isolated enlarged cells with hyper chromatic, polylobated nuclei.
Differential Diagnosis

- GIST
- Carcinoma
- Melanoma
- Kaposi’s
- Inflammatory/ infectious process
- Nerve sheath tumour
- Sarcoma
Additional investigations

❖ Immunohistochemistry
❖ C-Kit, DOG-1
❖ AE1/3, CAM5.2, EMA, SOX10
❖ S100, GLUT1, Claudin-1
❖ ERG
❖ Desmin
❖ MDM2 IHC and SISH
  ❖ the atypical cells in the lamina propria show MDM2 amplification
  ❖ MDM2 copy number >10, CEP 12 ratio >5
❖ FISH confirms MDM2 amplification
Diagnosis: Liposarcoma, dedifferentiated, involving bowel mucosa

❖ 4 years ago diagnosed with a dedifferentiated retroperitoneal liposarcoma. MDM2 amplified

❖ Molecular alterations in fatty tumours

❖ Lipomas:
❖ 1) 65% Recombinations of 12q13-15: HMGA2 gene, localized to 12q14.3, results in HMGA2 deregulation. Pathogenetic
❖ ii) loss of 13q (10%); and (iii) aberrations involving 6p21–23 (5%), combinations of above (7%)

❖ Spindle cell lipoma: Unbalanced hypodiploid karyotype, involving multiple losses, including 13q. No recurrent balanced rearrangements

❖ Hibernoma: breakpoints in 11q, often involves suppressor genes MEN1 and AIP

❖ Atypical lipomatous tumour and well differentiated liposarcoma: show supernumerary ring and giant marker chromosomes. Contain amplified sequences from the 12q14–15 region. MDM2 is amplified, which inactivates TP53. Several other genes are co-amplified (incl CDK4, HMGA2)