

# AMSER Rad Path Case of the Month:

## 80-year-old male with incidental scrotal mass

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# Patient Presentation

- **HPI:**
  - Patient was initially seen by General Surgery for an inguinal hernia repair, where intraoperative findings found no hernia but rather a suspicious mass in the left hemiscrotum.
  - There was no pain associated with the mass, no voiding concerns other than his scrotum getting in the way.
- **PMH/SHx:** noncontributory
- **Physical Exam:** large left hemiscrotum
- **Labs:** no pertinent findings

# What Imaging Should We Order?

**Variant 2:**                      **Nonsuperficial (deep) soft tissue mass. Initial imaging.**

Procedure	Appropriateness Category	Relative Radiation Level
Radiography area of interest	Usually Appropriate	Varies
US area of interest	May Be Appropriate	0
CT area of interest with IV contrast	May Be Appropriate	Varies
CT area of interest without and with IV contrast	May Be Appropriate	Varies
CT area of interest without IV contrast	May Be Appropriate	Varies
US area of interest with IV contrast	Usually Not Appropriate	0
Image-guided biopsy area of interest	Usually Not Appropriate	Varies
Image-guided fine needle aspiration area of interest	Usually Not Appropriate	Varies
MRI area of interest without and with IV contrast	Usually Not Appropriate	0
MRI area of interest without IV contrast	Usually Not Appropriate	0
FDG-PET/CT area of interest	Usually Not Appropriate	☼☼☼☼

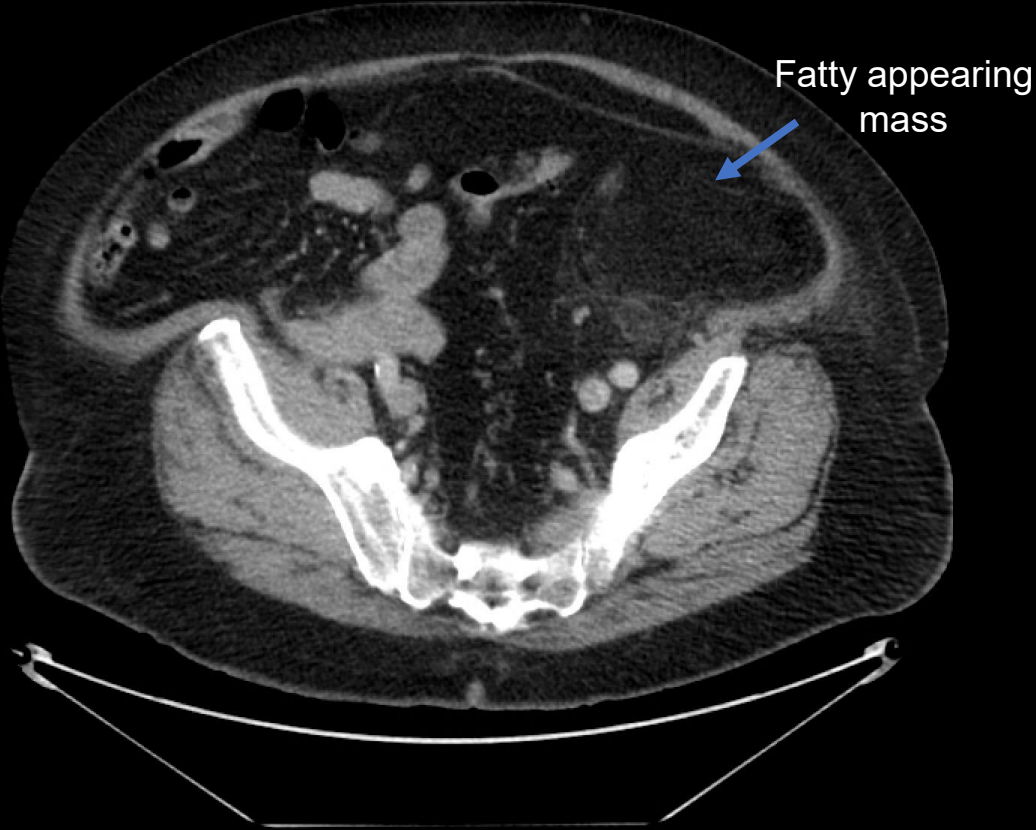
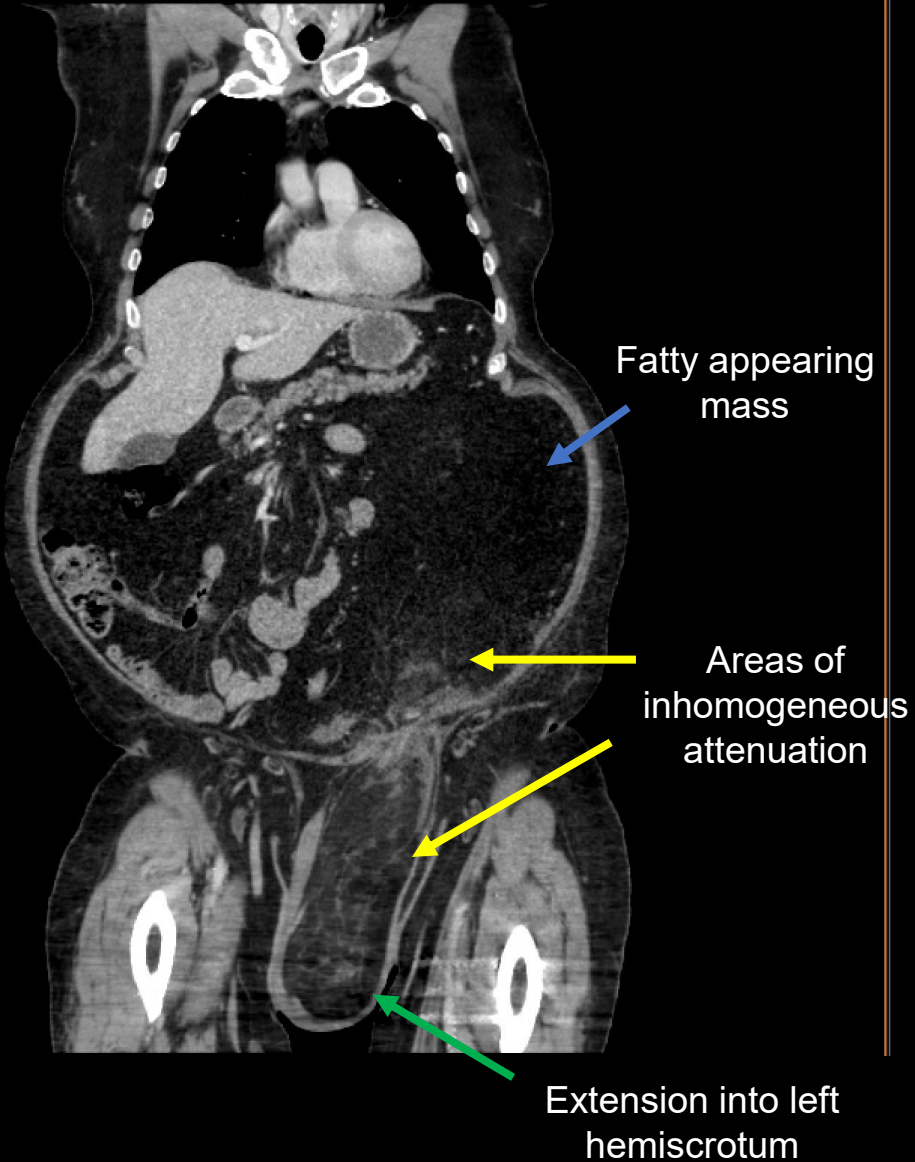
This imaging modality was ordered by the ER physician



# Radiology Images (not labeled)



# Radiology Images (labeled)

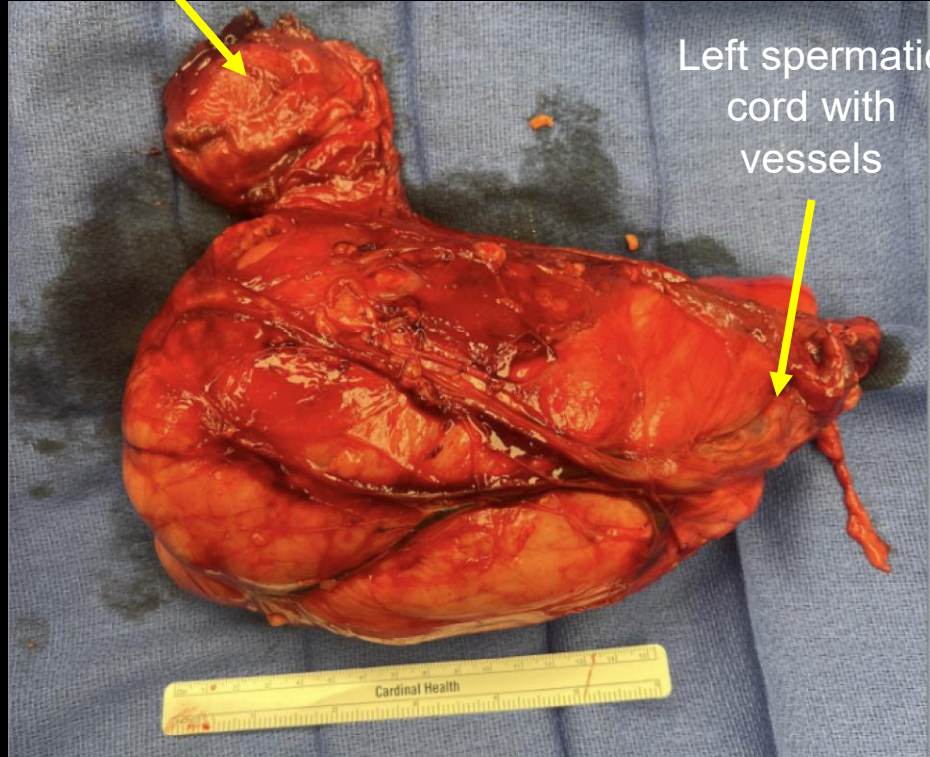


# DDX (based on imaging)

- Lipomatosis
- Liposarcoma

# Gross Path (labeled)

Left testis



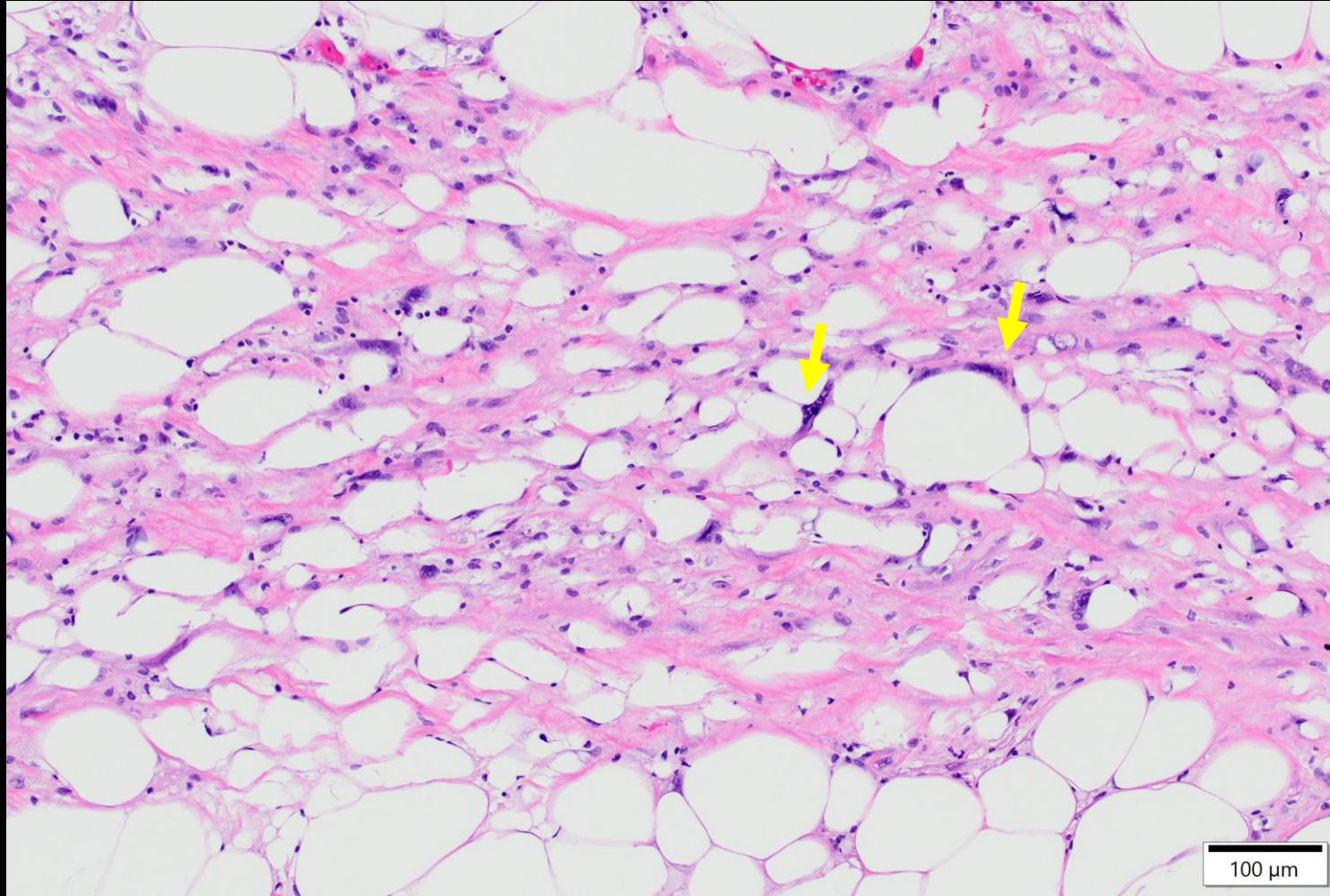
Left spermatic cord with vessels



Left scrotal mass with testes, spermatic cord

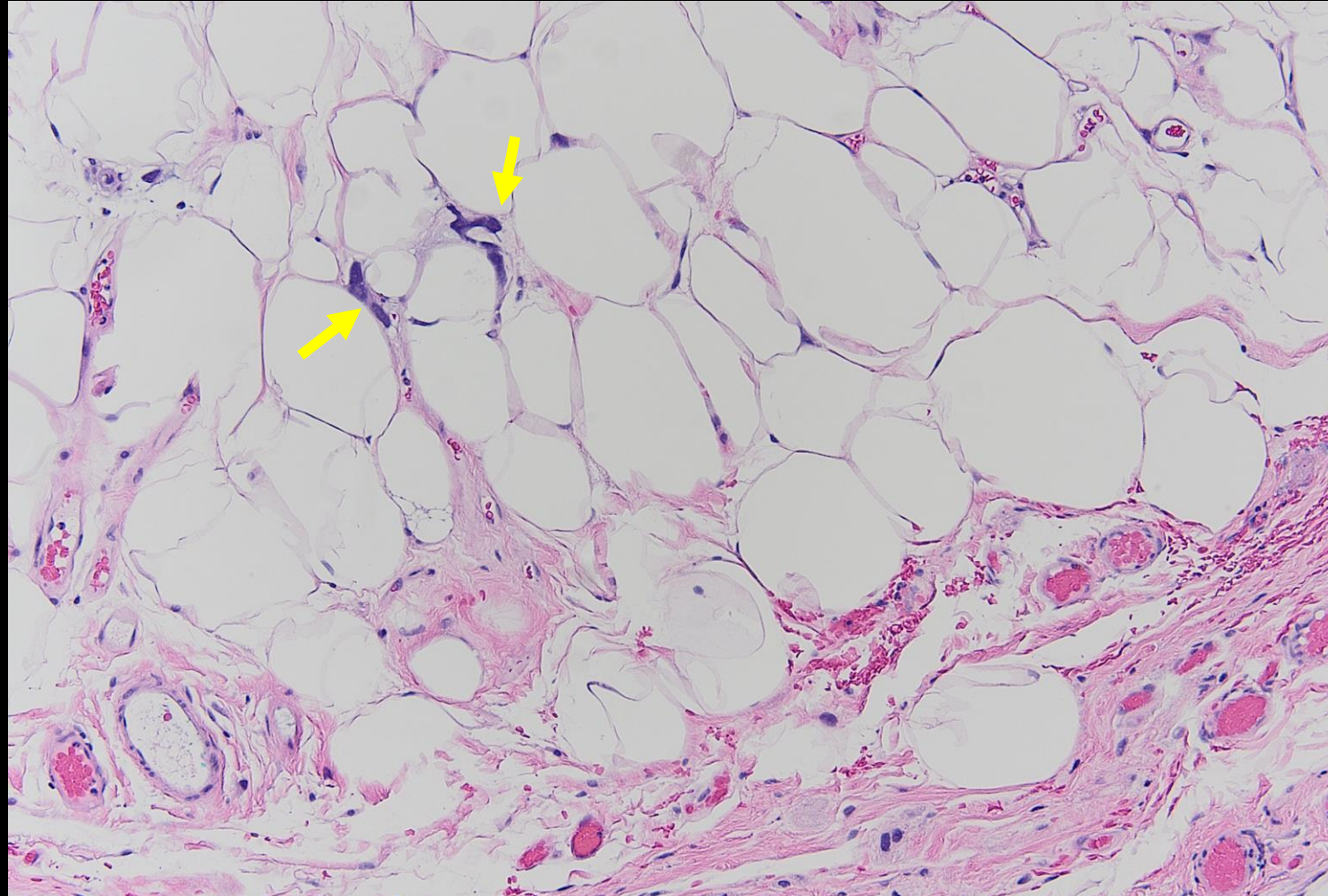
Left retroperitoneal mass

# Micro Path (labeled)



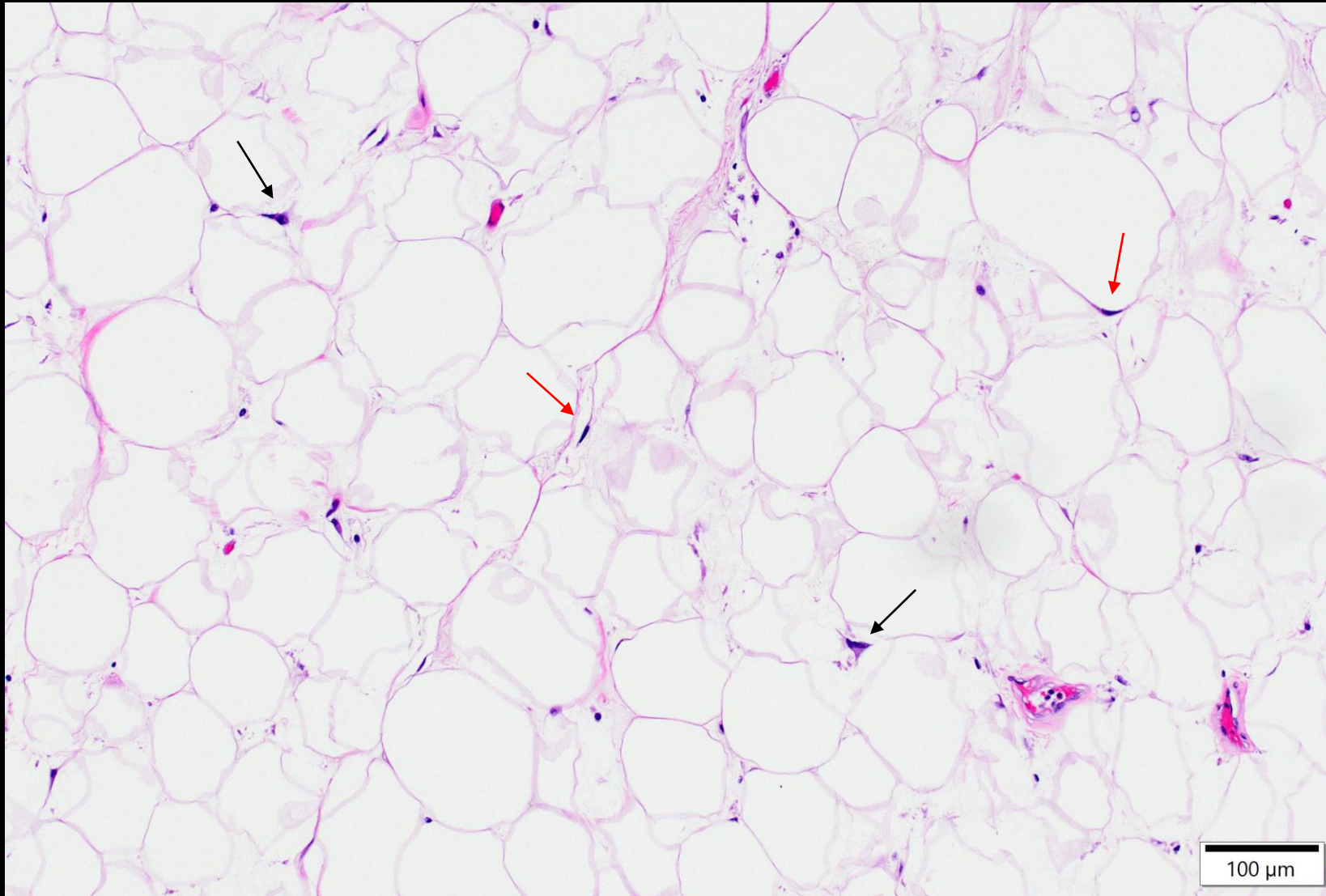
Fibrous bands containing enlarged atypical spindle cells with irregular, hyperchromatic nuclei interlacing among bland fat lobules. (10X magnification)

# Micro Path (labeled)



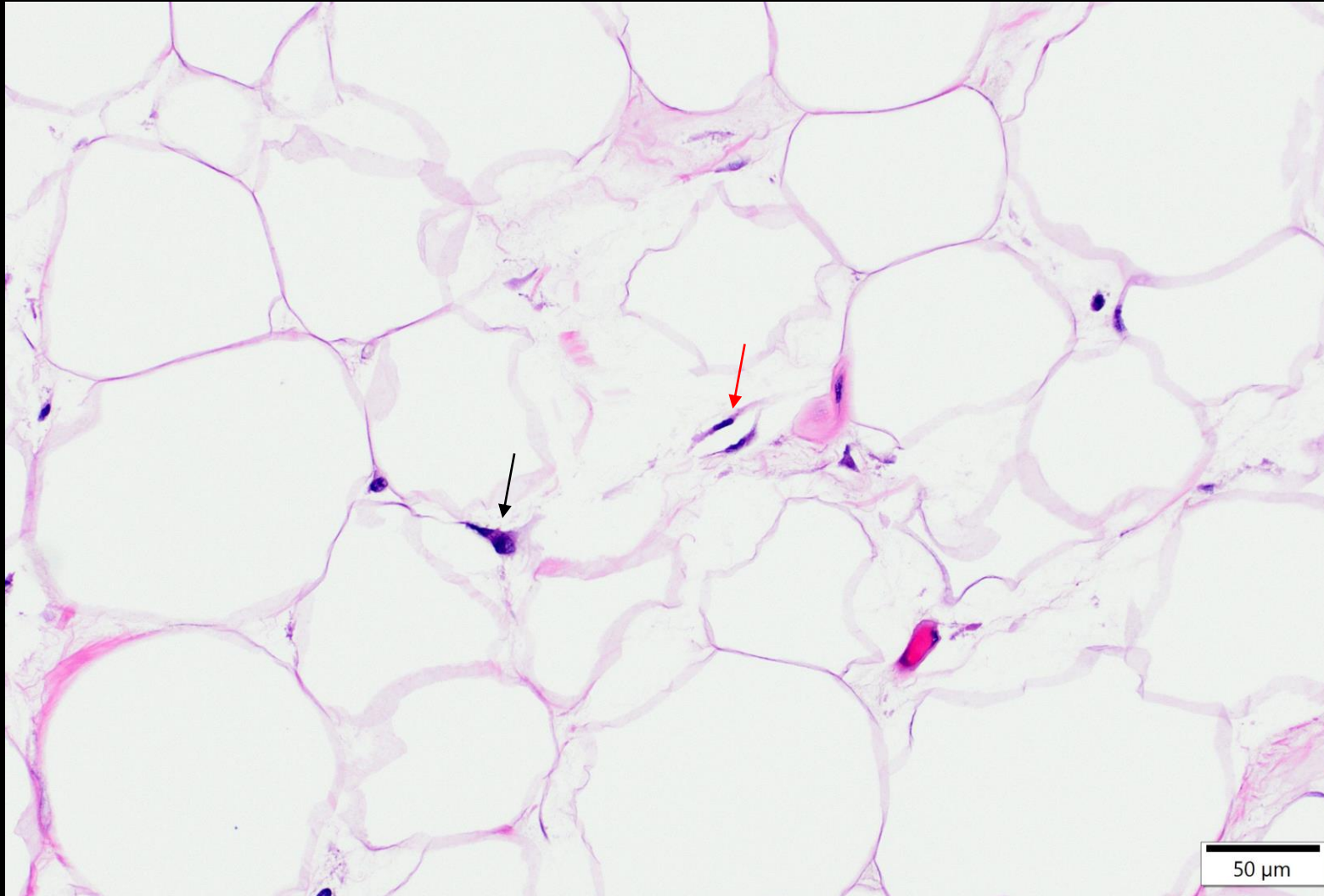
H&E: 10x Testicular soft tissue well-differentiated liposarcoma with atypical hyperchromatic, enlarged, irregular nuclei adjacent to spermatic cord blood vessels

# Micro Path (labeled)



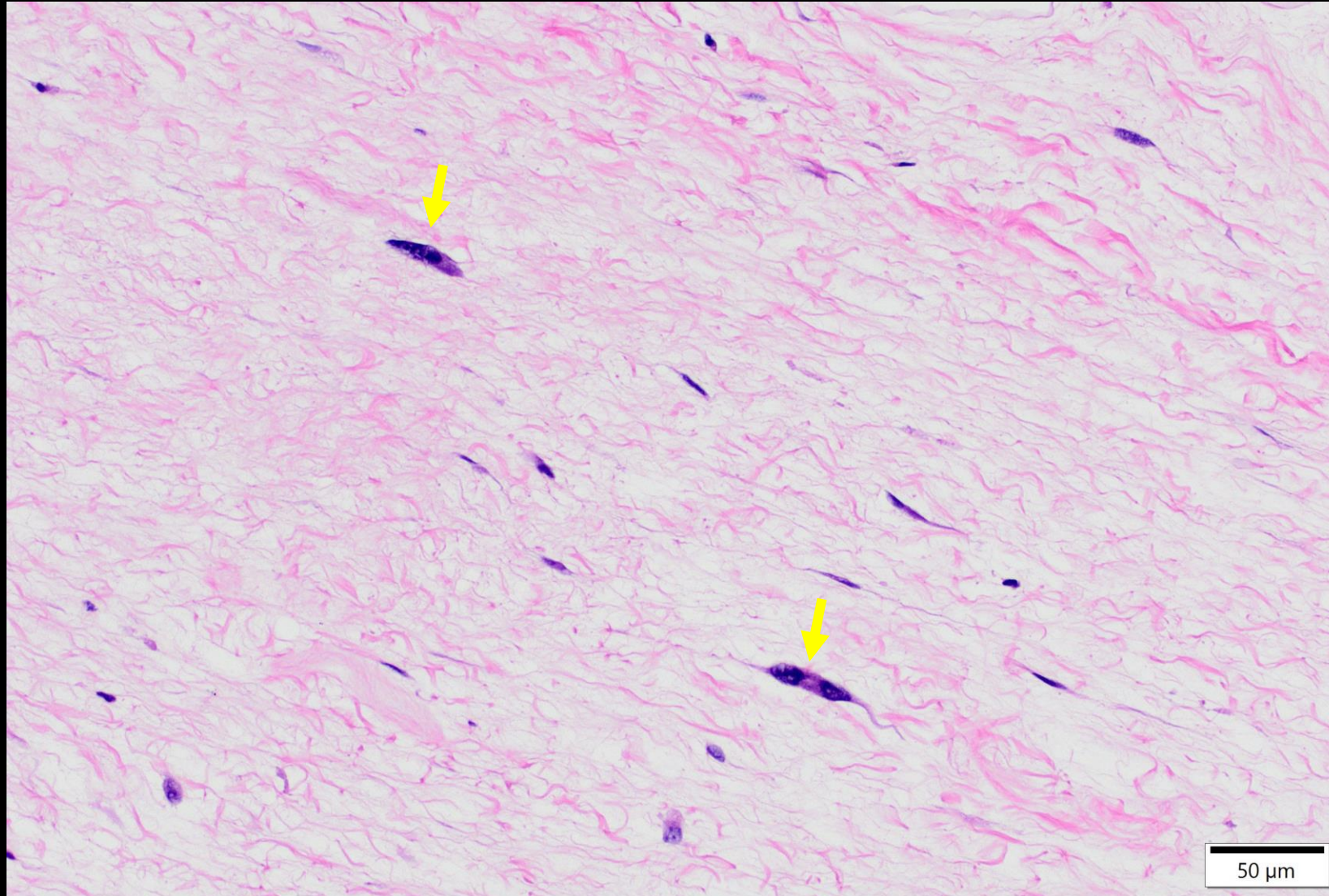
Well-differentiated tumor largely resembling bland adipose tissue. Note the larger, frankly atypical stellate tumor cells (black arrows) and the slender, more subtle lancet-shaped cells (red arrow), sprinkled throughout the adipose tissue. (10X magnification)

# Micro Path (labeled)



Well-differentiated tumor largely resembling benign adipose tissue. Note the larger, frankly atypical stellate tumor cells (black arrows) and the slender, more subtle lancet-shaped cells (red arrow), sprinkled throughout the adipose tissue. (10X magnification)

# Micro Path (labeled)



Malignant tumor cells set within a loose collagen matrix. (20X magnification)

Final Dx:  
Well-differentiated Liposarcoma

# Case Discussion

- Well-Differentiated Liposarcoma (WDL):
  - Rare mesenchymal neoplasm of adipocytes that involves deep soft tissues
- Epidemiology:
  - WDL account for 40-45% of all liposarcomas
  - Frequently occurs in adults between 50-70s
- Clinical Presentation:
  - Painless, typically incidentally found
  - Typically arise within the limbs and retroperitoneum. Less commonly, they arise in the paratesticular region, mediastinum, and head and neck.
  - Slowly enlarging masses and tend to be larger in deep locations

# Case Discussion

- Gross pathology:
  - Typically multilobulated and well circumscribed
  - Rarely grossly infiltrative
- Pathology:
  - Proliferation of pleomorphic mature adipocytes, variable number of lipoblasts present
  - Contains single, enlarged hyperchromatic nuclei
  - Fibrous septa can be found intersecting the pleomorphic adipocytes
  - Atypical cells are commonly found in fibrous septa and in a perivascular distribution

# Case Discussion

- Radiographic Features:
  - Presence of thick septa (>2mm)
  - Larger size (>10cm)
  - Nodular/globular areas of non-fat within the lesion
  - Incomplete fat-suppression
- Treatment:
  - Wide-margin surgical excision is the mainstay treatment
  - Evidence for adjuvant chemotherapy or radiation is controversial
  - Long-term follow up is recommended due to high rates of recurrence

# References:

Zafar R, Wheeler Y. Liposarcoma. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan 20 [updated 2025 Jan]; NBK538265. PMID: 30855853.

Lee ATJ, Thway K, Huang PH, Jones RL. Clinical and Molecular Spectrum of Liposarcoma. *Journal of Clinical Oncology*. 2018 Jan 10;36(2):151-159. doi:10.1200/JCO.2017.74.9598. Epub 2017 Dec 8. PMID: 29220294; PMCID: PMC5759315.

Diagnosis and management of dedifferentiated liposarcoma. *Cancer Treatment Reviews*. 2025;S0305-7372(24)00175-0. doi:10.1016/j.ctrv.2025.

Haddox CL, Hornick JL, Roland CL, Baldini EH, Keedy VL, Riedel RF. Diagnosis and management of dedifferentiated liposarcoma: A multidisciplinary position statement. *Cancer Treat Rev*. 2024;123:102846. doi:10.1016/j.ctrv.2024.102846.

Thway K. Well-differentiated liposarcoma and dedifferentiated liposarcoma: An updated review. *Semin Diagn Pathol*. 2019 Mar;36(2):112-121. doi:10.1053/j.semdp.2019.02.006. Epub 2019 Feb 28.