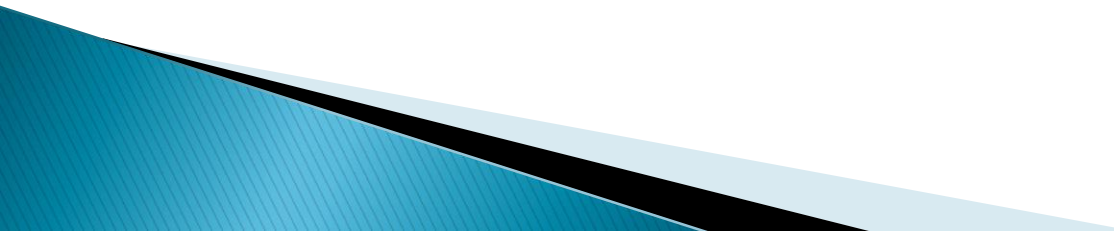



# CASE OF RECURRENT GCT OF EXTENSOR TENDON OF LEFT SIDE OF THE FOOT

Dr. Ankur Kumar  
Junior Resident  
Dept of Orthopaedics

# HISTORY

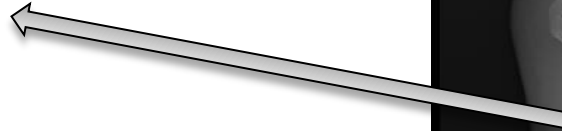
- ▶ A 24 year old male patient presented with a swelling on the dorsal aspect of left foot since 3 years.
  - ▶ He was operated thrice before, outside, for same.
  - ▶ Came to us with recurrence since last one year with gradually increasing swelling with dull aching pain.
- 

# ON EXAMINATION

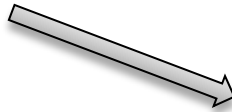
- ▶ Dimension of 10x10 cm swelling on the dorsum of the left foot freely movable, non tender, lobulated, not attached to underlying bone, firm to hard in consistency.
  - ▶ No local rise of temperature
  - ▶ No signs of any infection
  - ▶ Skin over the swelling was freely movable.
- 

# X-RAY

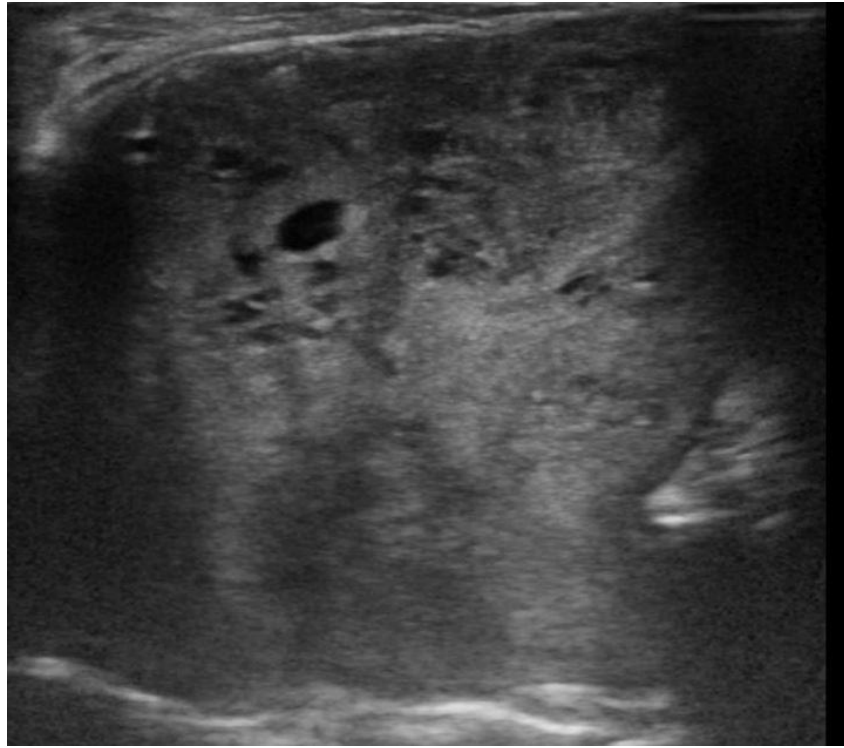
Large soft tissue swelling



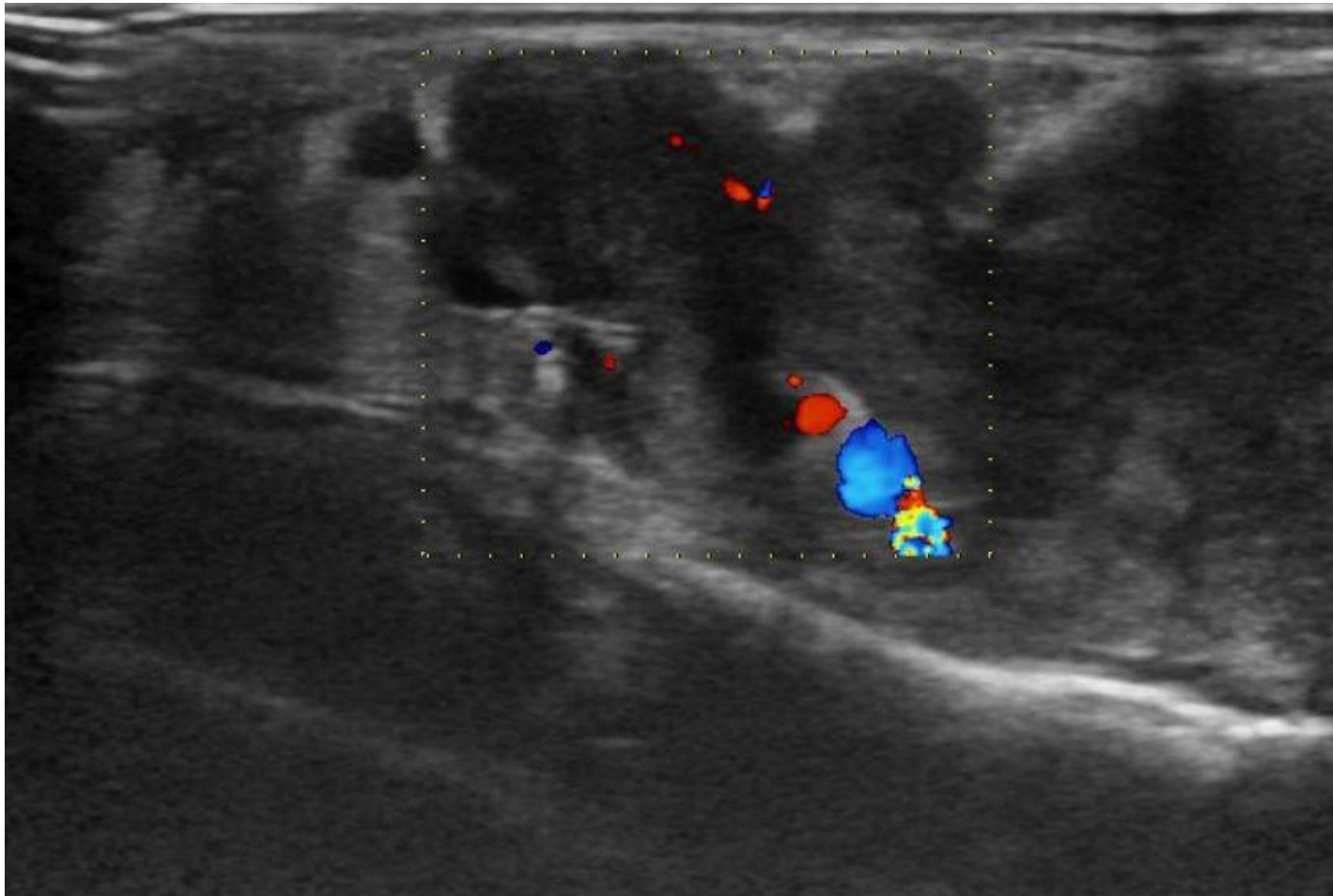
Large soft tissue swelling with no bone involvement



# USG



- ▶ USG findings shows solid, homogenous, hypoechoic masses with detectable internal vascularity that are associated with the extensor tendon.

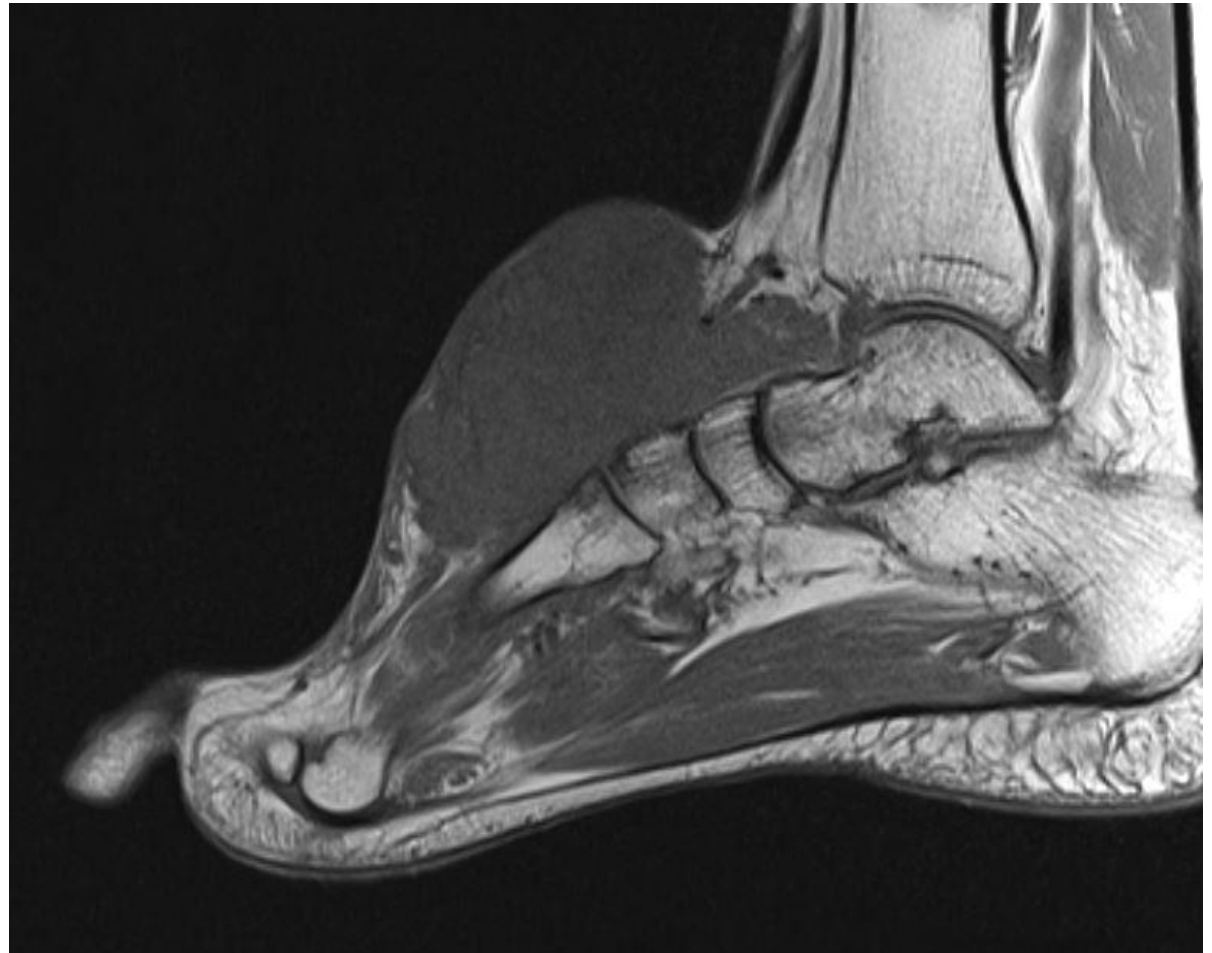


Transverse Colour Power Doppler shows that the dorsalis pedis vessels are intermingled in mass.

# MRI

NO BONY  
INVOLVEMENT

T1 WI sag




Appearance of the focal form is generally decreased signal intensity on both T1- and T2-weighted MR imaging.

# OPERATIVE NOTES

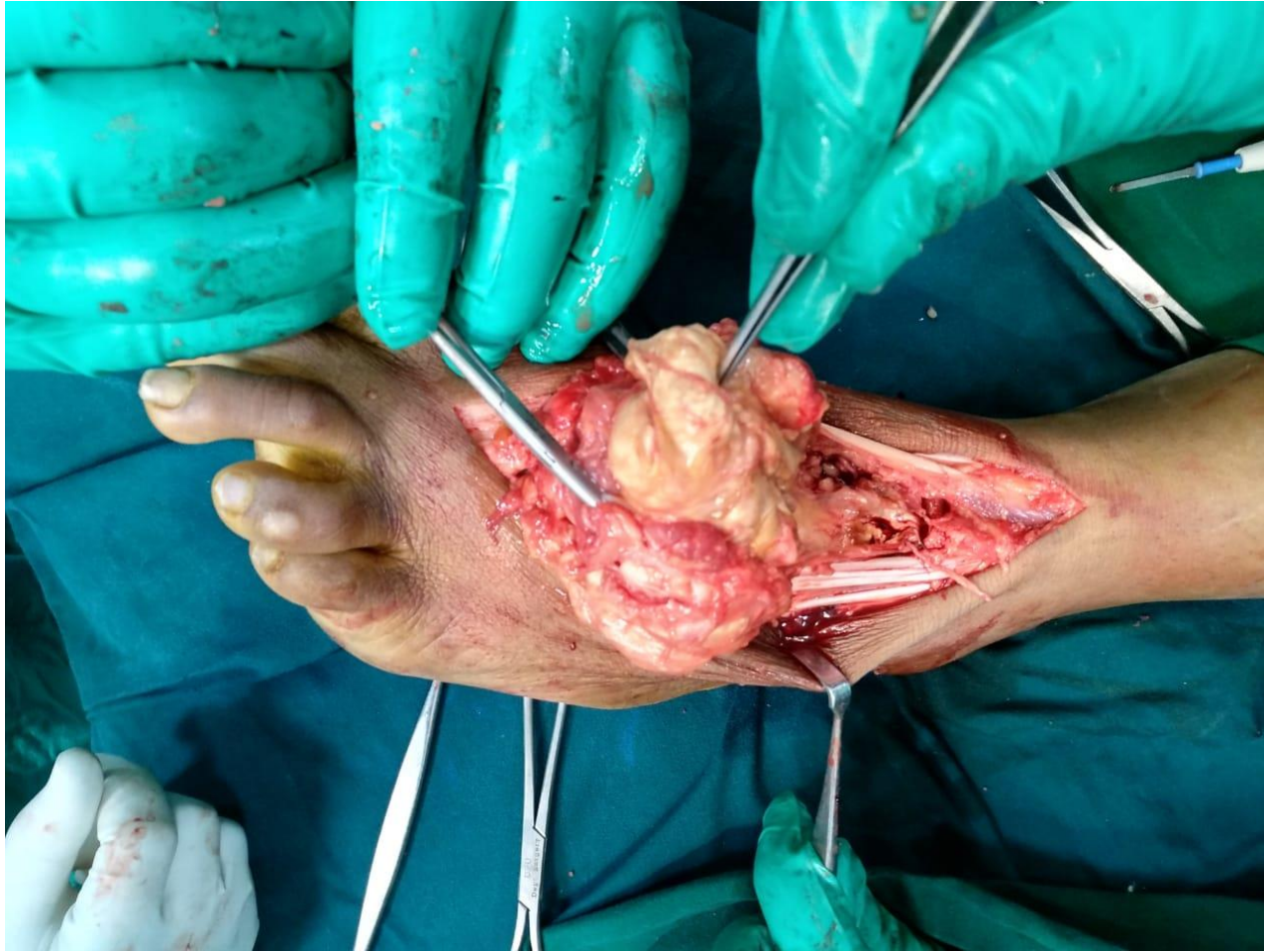
- ▶ Excisional biopsy was performed.
- ▶ The surgery was performed using a tourniquet and under spinal anaesthesia.



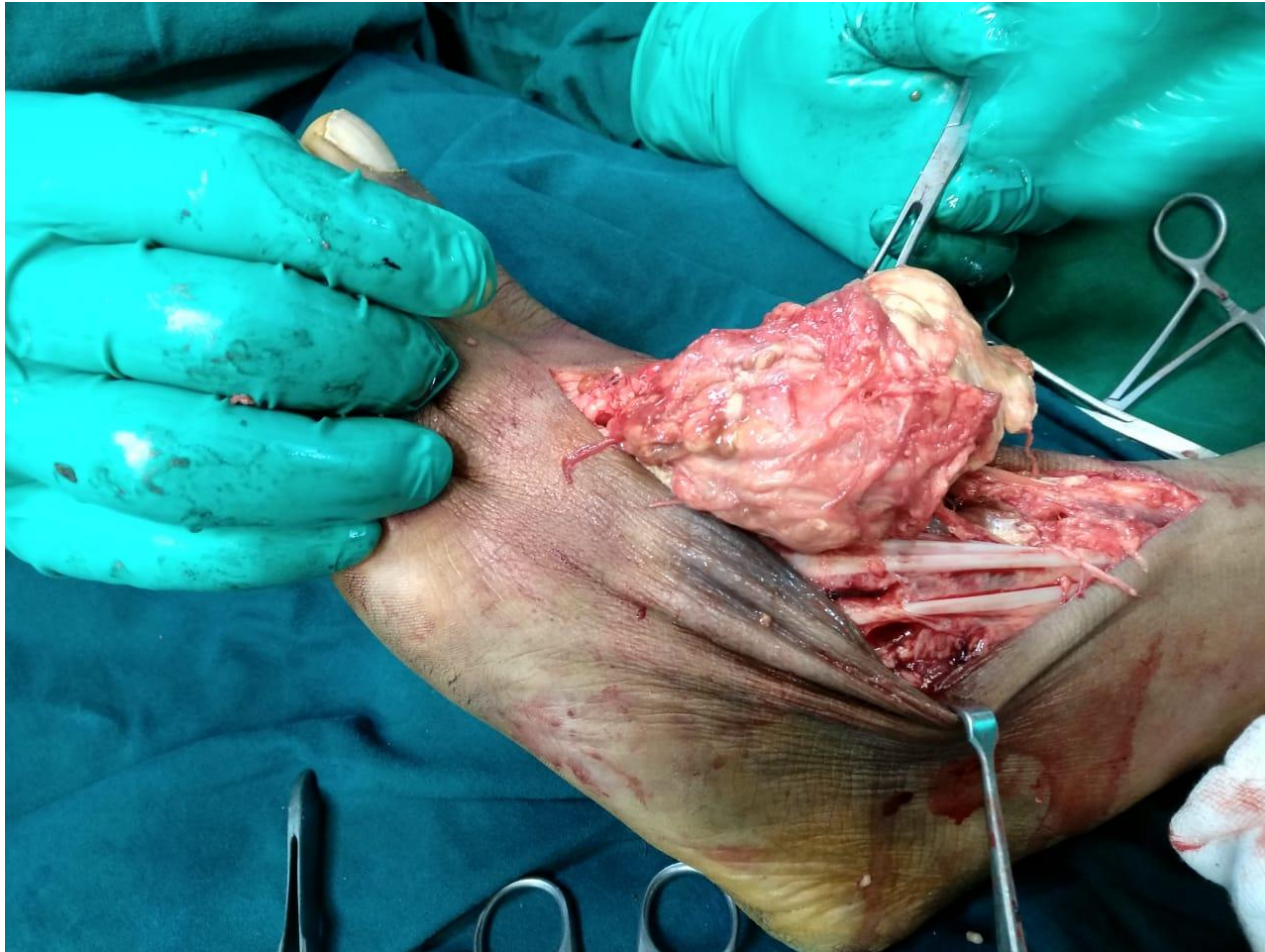
# INTRA OP FINDINGS

- ▶ Tumor was found to be arising from Extensor Digitorum Brevis tendon sheath
  - ▶ Dorsalis pedis vessels and anterior tibial nerve was adherent to the tumor
  - ▶ Tendons were intact.
  - ▶ We managed to remove it without removing the tendon.
- 

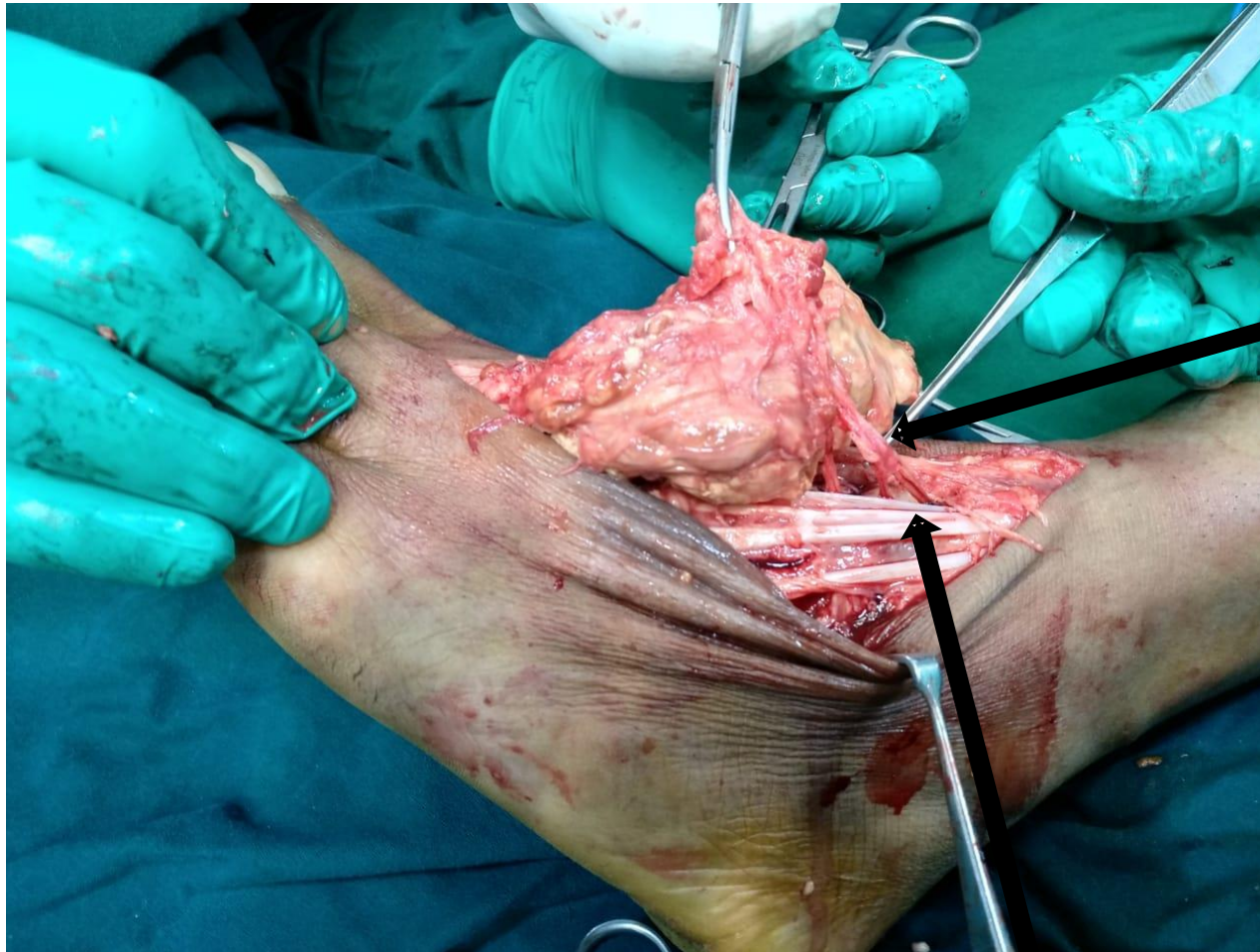
# INTRA OP



# INTRA OP



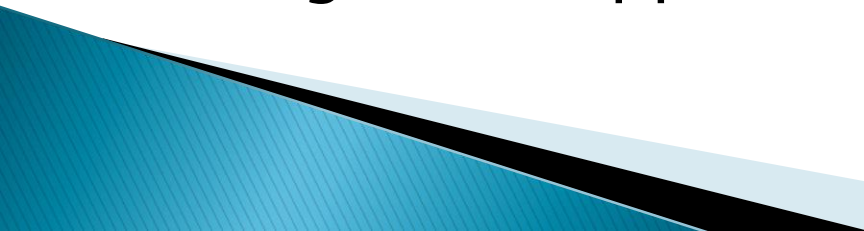
# INTRA OP

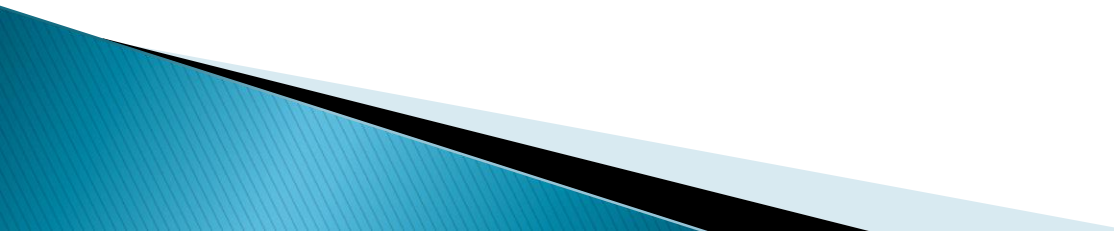


DORSALIS  
PEDIS  
VESSELS

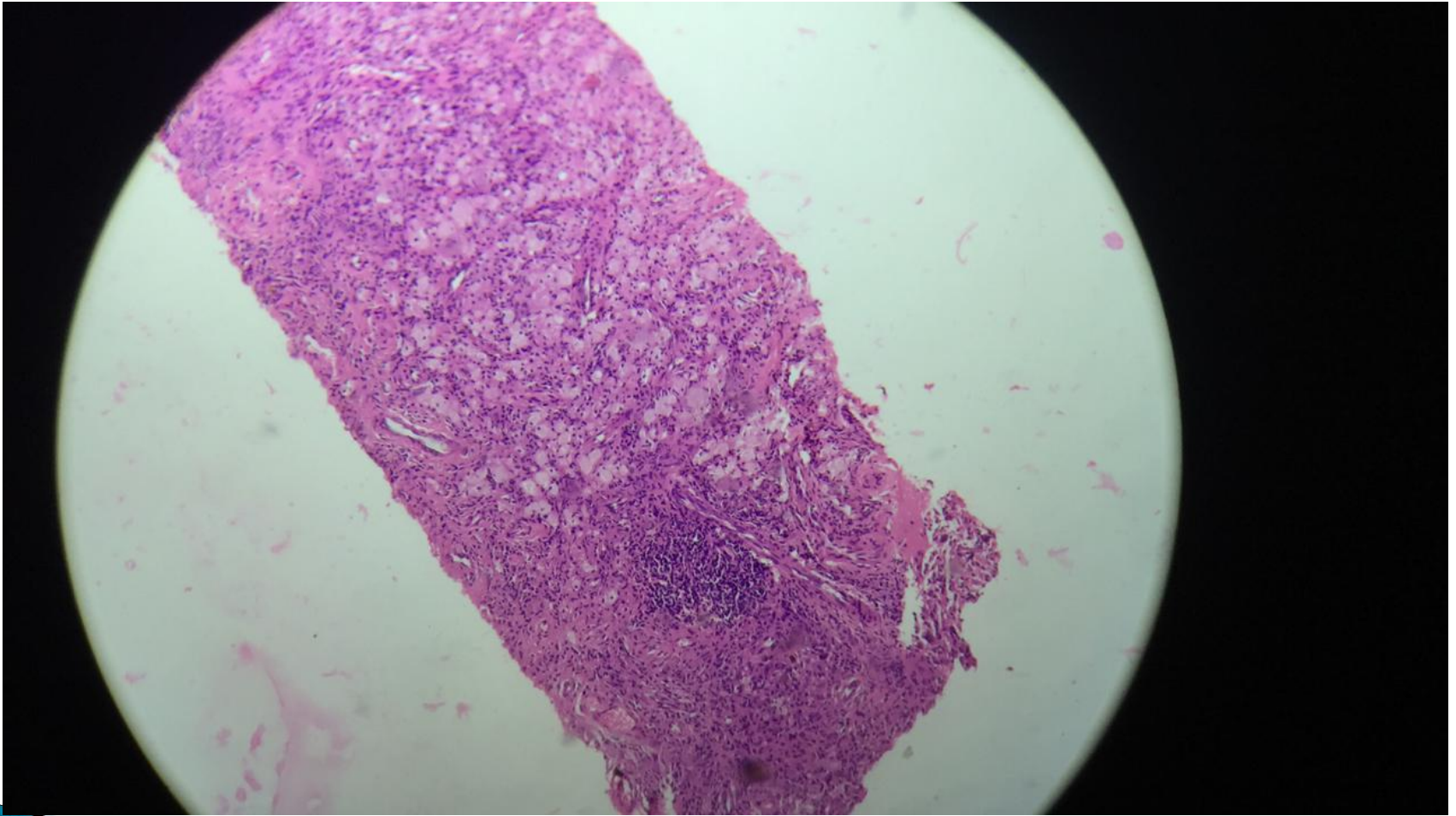
EXTENSOR TENDONS OF  
FOOT

# CROSS SECTION (GROSS)

- ▶ Giant cell tumors of the tendon sheath have a well-circumscribed multilobular appearance and often possess shallow grooves along their deep surfaces and are usually with a diameter of 0.5–5 cms.
  - ▶ Compared with other lesions, giant cell tumors in the hand digits are usually smaller and have a more regular appearance while those of the feet and elsewhere are often larger and more irregular in appearance.
- 

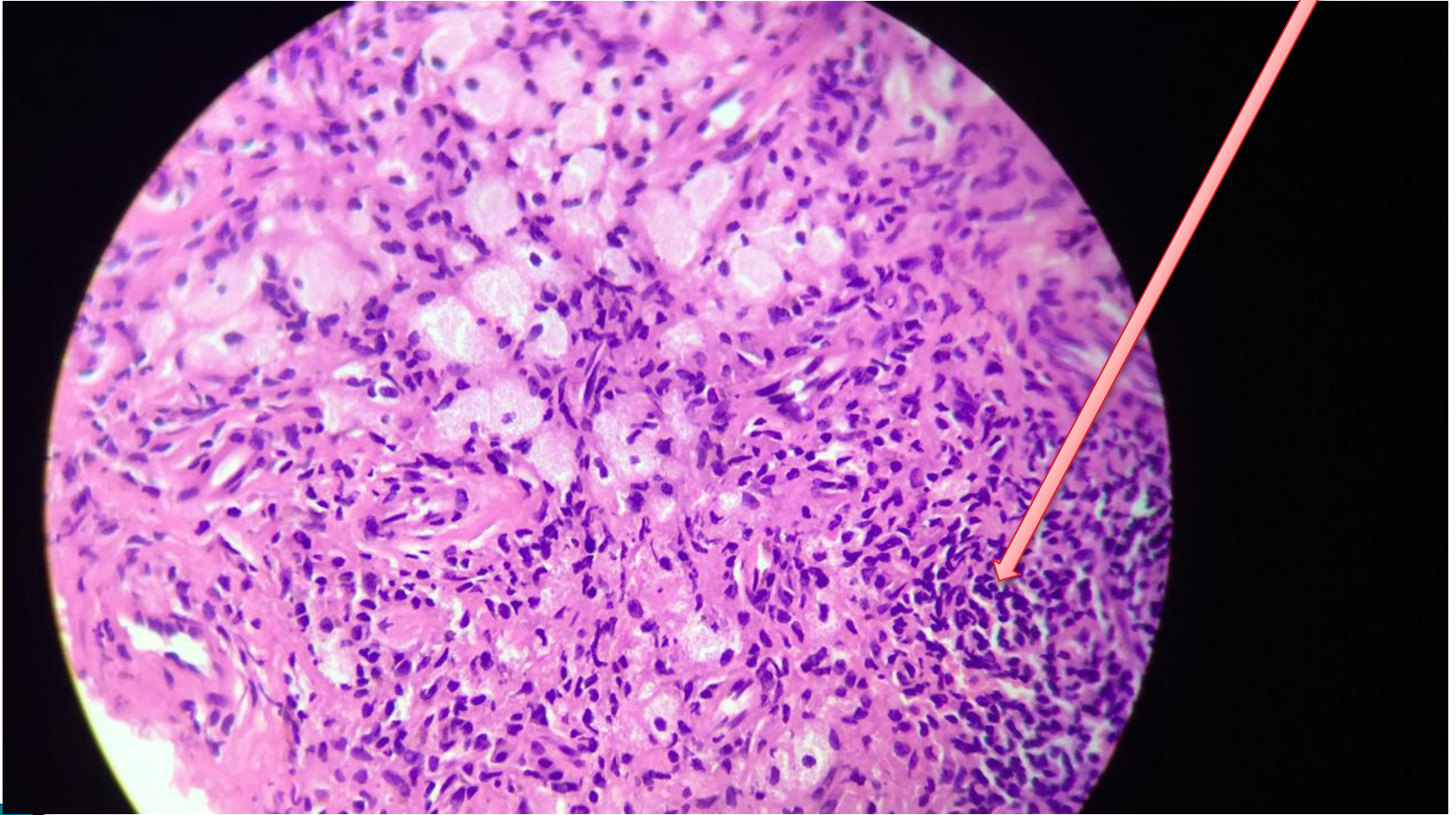
- ▶ On cut sections, these tumors have a mottled appearance, varying in color from grayish–brown to yellow–orange. The coloration depends on the amount of hemosiderin, collagen, and histiocytes in the sample.
  - ▶ Tumors with more hemosiderin deposition due to bleeding have more of the yellow–orange or even reddish–brown color
- 

# HISTOLOGY



# HISTOLOGY

MULTINUCLEATED  
GIANT CELLS



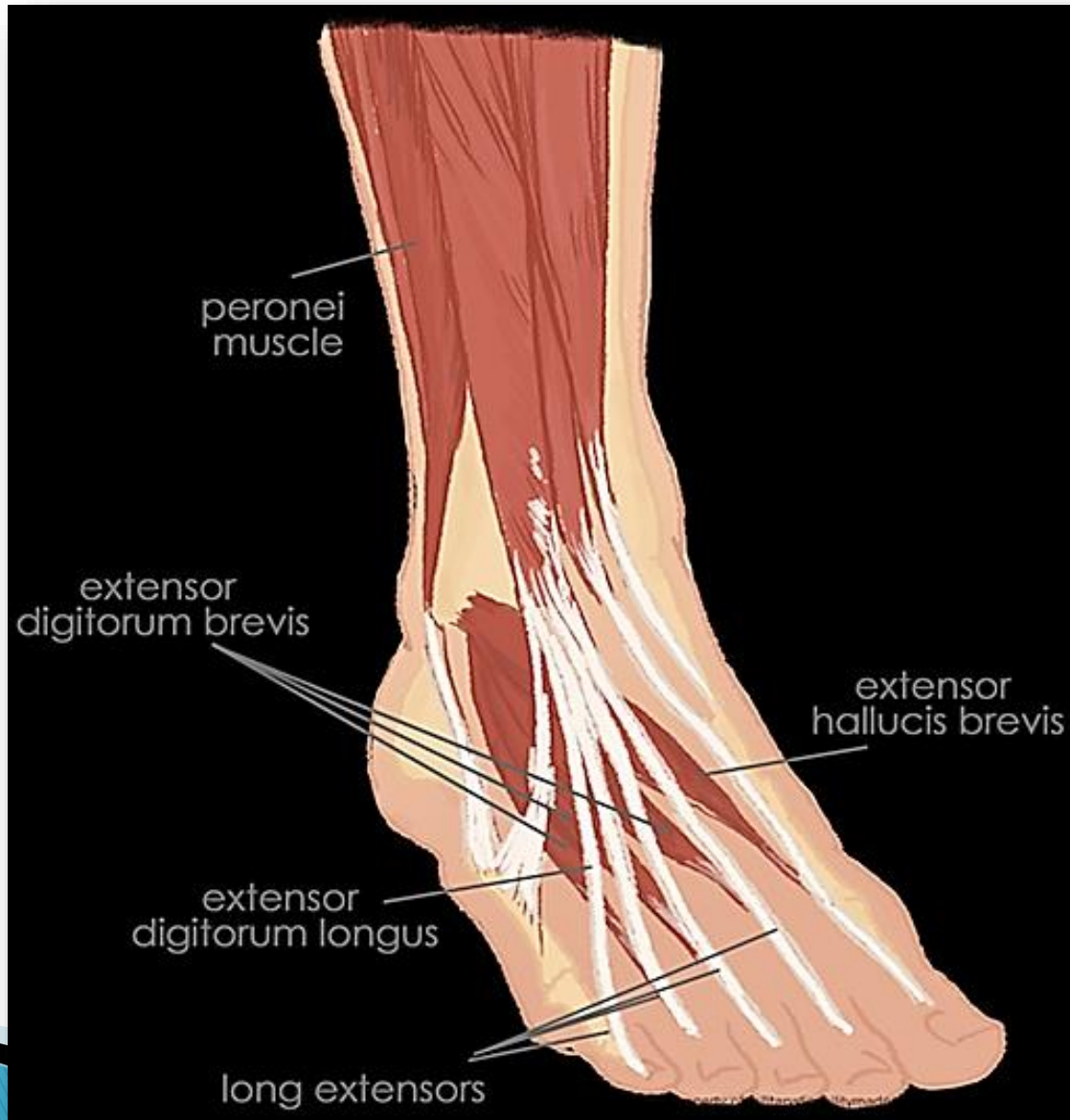


# HISTOLOGY

Characterized by

- ▶ Proliferating histiocytes, moderately cellular (sheets of rounded or polygonal cells)
- ▶ Hemosiderin (brown color) may be present, but typically less than seen with PVNS (pigmented villonodular tumor of the tendon sheath)
- ▶ PVNS– a condition that causes the synovium to thicken and overgrow. The mass is not cancerous and does not spread. It is a progressive disease that can lead to bone damage and arthritis later on.
- ▶ Multinucleated giant cells are common

# SOFT TISSUE ANATOMY



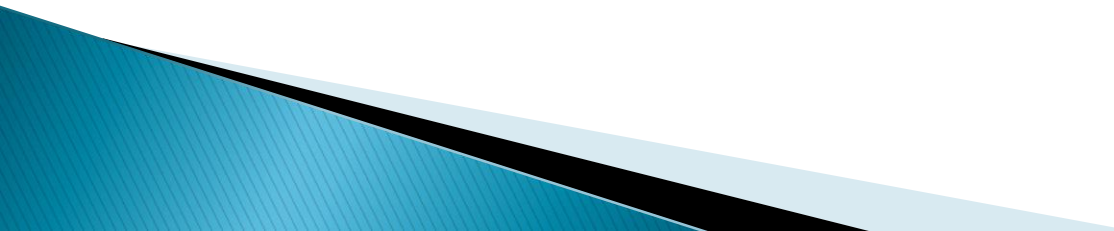
# DIAGNOSIS

FINAL DIAGNOSIS :

GIANT CELL TUMOUR of the tendon sheath

# GCT OF THE TENDON SHEATH

- ▶ Giant cell tumors of the tendon sheath are the second most common tumors of the hand, with simple ganglion cysts being the most common.
- ▶ Giant cell tumors of the soft tissue are classified into the following two types:
  - ❖ Localized (common)
  - ❖ Diffuse (rare)

- ▶ The rare diffuse form (often locally aggressive) is considered the soft-tissue counterpart of diffuse pigmented villonodular synovitis (PVNS) and affects the lower extremities, most commonly found around the knee, followed by the ankle and foot.
  - ▶ Typically, these lesions, like those of PVNS, occur in young patients; 50% of cases are diagnosed in patients younger than 40 years.
  - ▶ The diffuse form probably represents an extra-articular extension of a primary intra-articular PVNS process.
- 

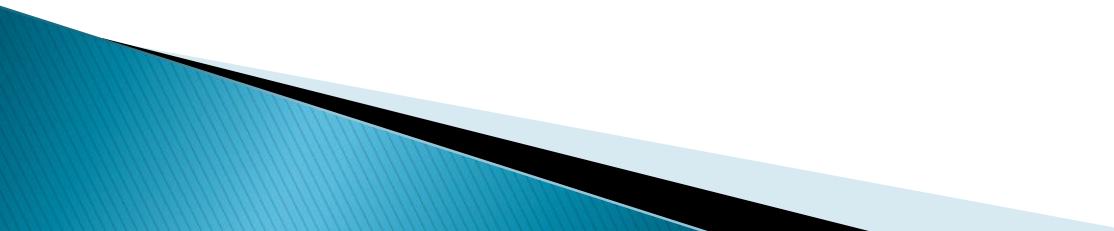
# ETIOLOGY

As is true for most soft-tissue tumors, the etiology of giant cell tumors of the tendon sheath is unknown.

Pathogenetic theories have included

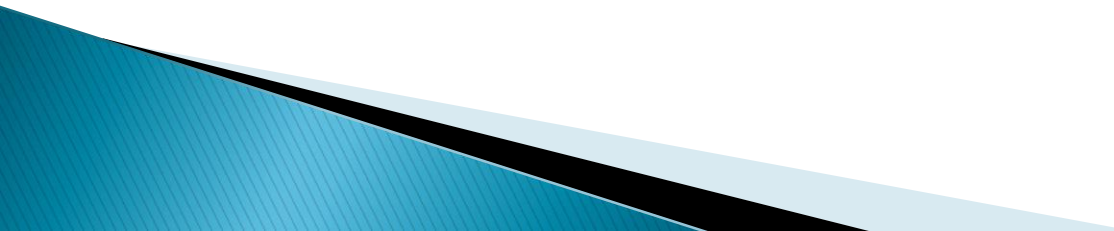
- ❖ Trauma,
  - ❖ Disturbed lipid metabolism,
  - ❖ Osteoclastic proliferation,
  - ❖ Infection,
  - ❖ Vascular disturbances,
  - ❖ Immune mechanisms,
  - ❖ Inflammation,
  - ❖ Neoplasia, and metabolic disturbances.
- ▶ Probably the most widely accepted theory, as Jaffe et al proposed, is that of a reactive or regenerative hyperplasia associated with an inflammatory process.

# EPIDEMIOLOGY

- ▶ Age distribution: 30–50 years (peak incidence in those aged 40–50 years) Rarely are these tumors found in patients younger than 10 years or older than 60 years.
  - ▶ M:F ratio– 3:2
  - ▶ Giant cell tumors of the tendon sheath are associated with degenerative joint disease, especially in the distal interphalangeal (DIP) joint.
  - ▶ An occasional association with rheumatoid arthritis has also been reported.
- 

# PROGNOSIS

The incidence of local recurrence is high, ranging from 9% to 44%. Researchers have reported the following rates:

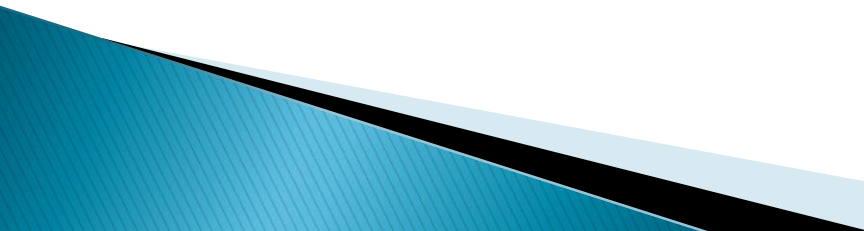
- ▶ Phalen et al, 9% recurrence rate in 56 cases
  - ▶ Moore et al, 9% recurrence rate in 115 cases
  - ▶ Jones et al, 17% recurrence rate in 95 cases
  - ▶ Reilly et al, 27% recurrence rate in 70 cases
  - ▶ Wright, 44% recurrence rate in 69 cases
- 



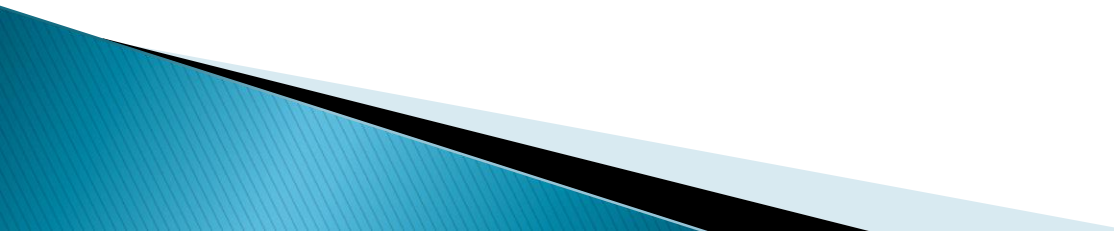
# COMPLICATIONS

- ▶ Tumor recurrence
- ▶ Deep infection

# Differentials & Groups

- ▶ *Giant cell tumor of tendon sheath*
  - ▶ *Malignant fibrous histiocyoma*
  - ▶ *Plexiform fibrohistiocytic tumor.*
- 

# SUMMARY

- ▶ As of now the patient is absolutely fit and fine.
  - ▶ It has not recurred in the last 5 months.
  - ▶ A meticulously planned surgery gives complete relief and no recurrence with full function and no morbidity.
- 

▶ THANK YOU....