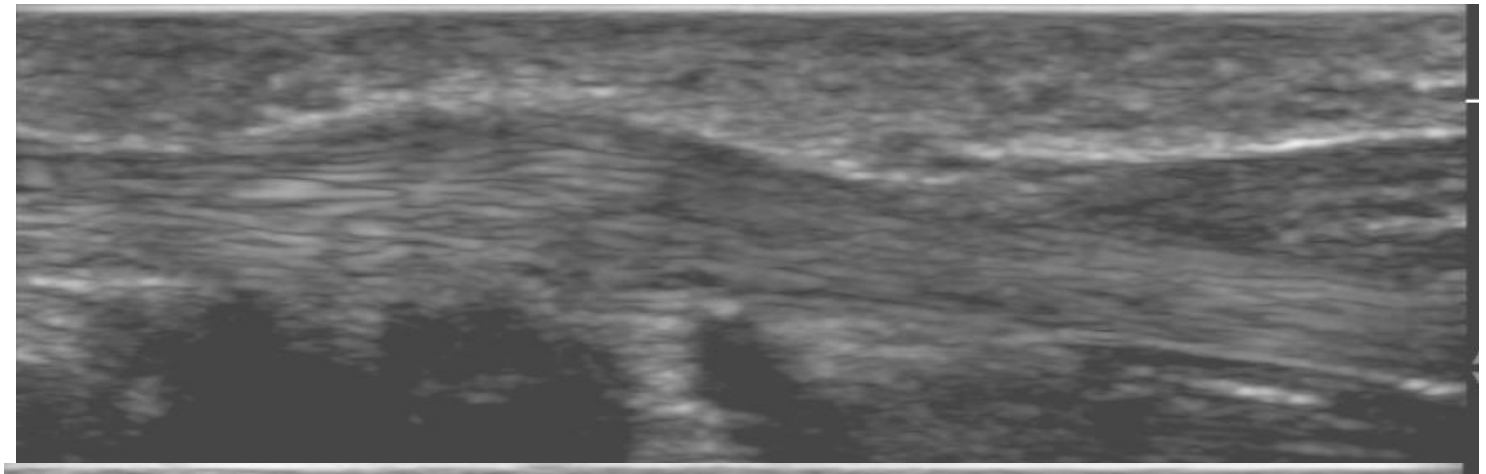
MSK Interesting Case (21st September 2017)

Dr Yap Sheau Huey

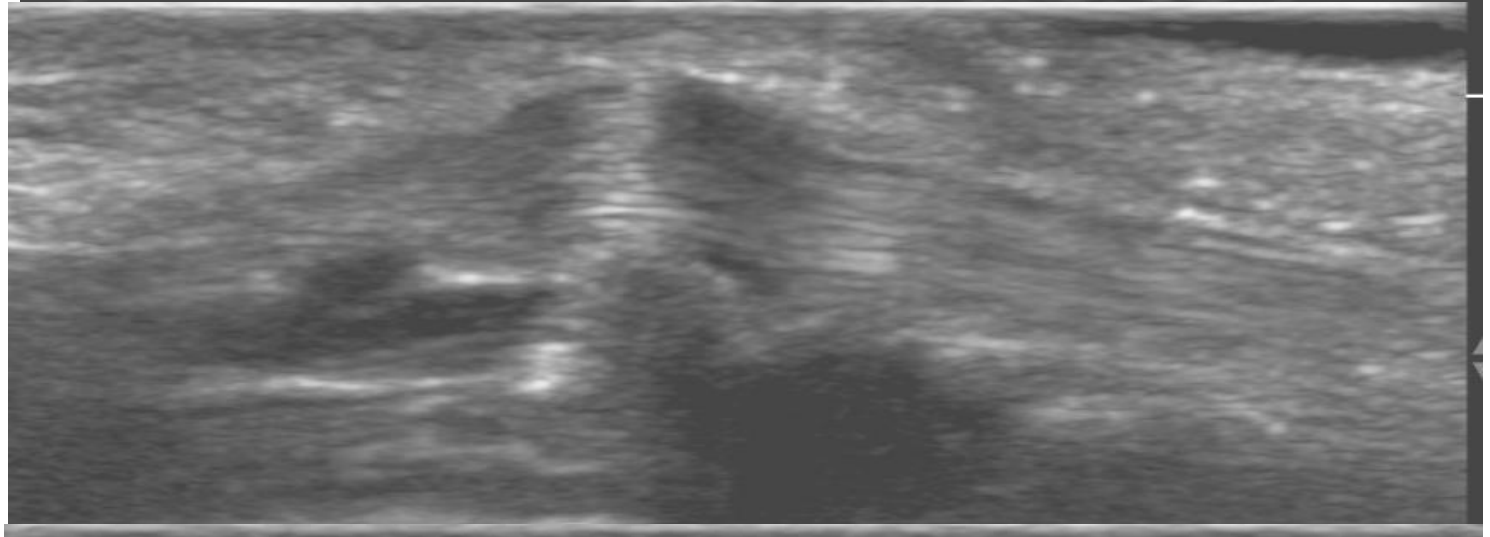
Case 1

- 3 y.o boy
- Bilateral thumbs IPJ flexion deformity ~ a few months.
- O/E: full active flexion, active extension ~20 degree
- Passive ~ fully extends

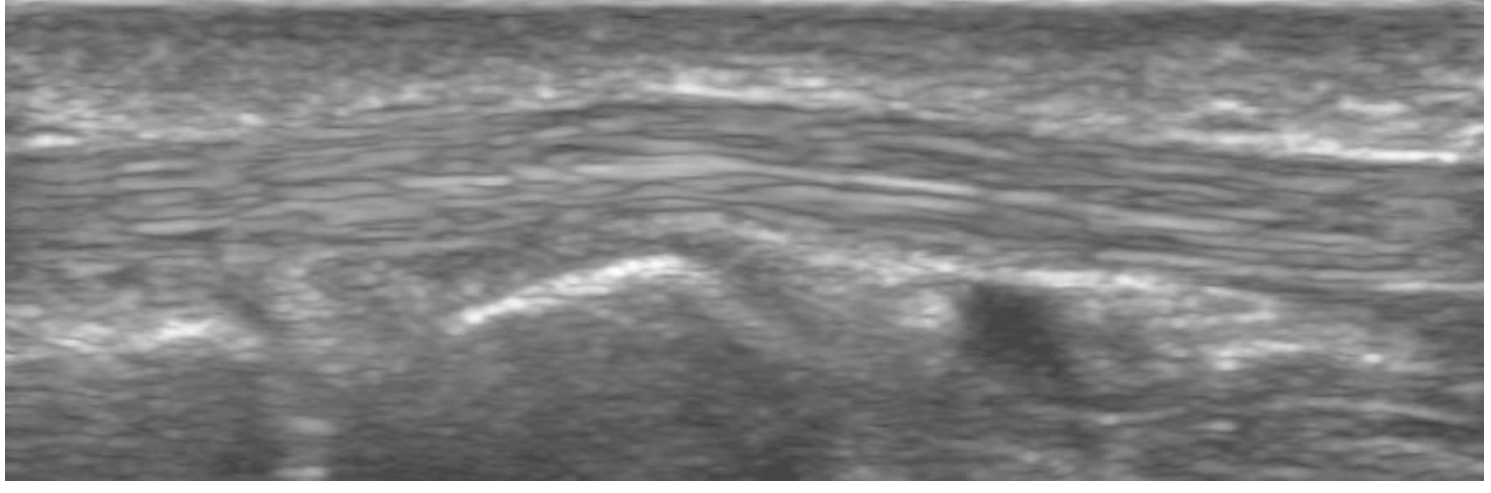
Ultrasound



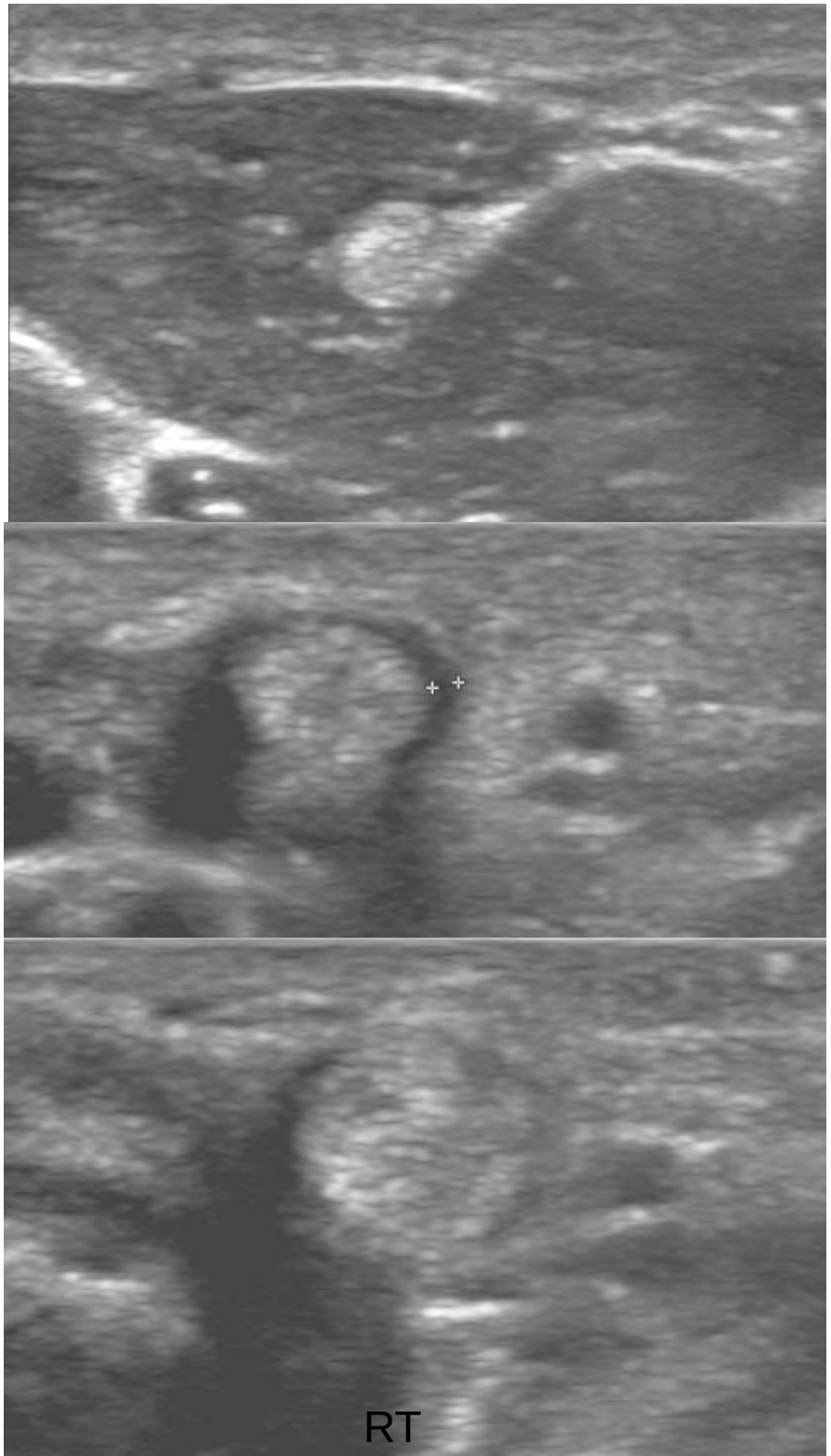
RT FPL

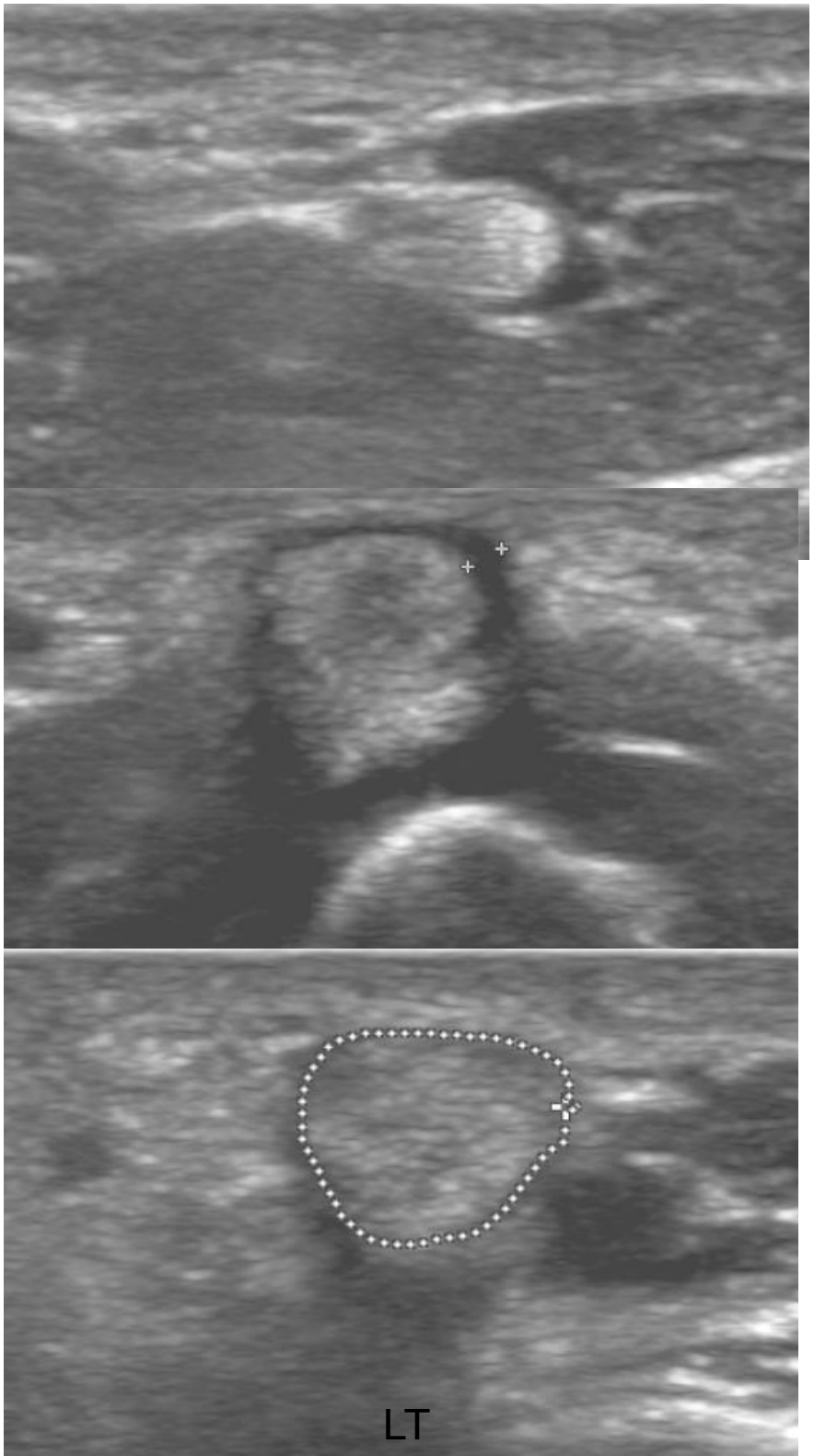


LT FPL



Normal adult


RT


LT

Pediatric Trigger Thumb

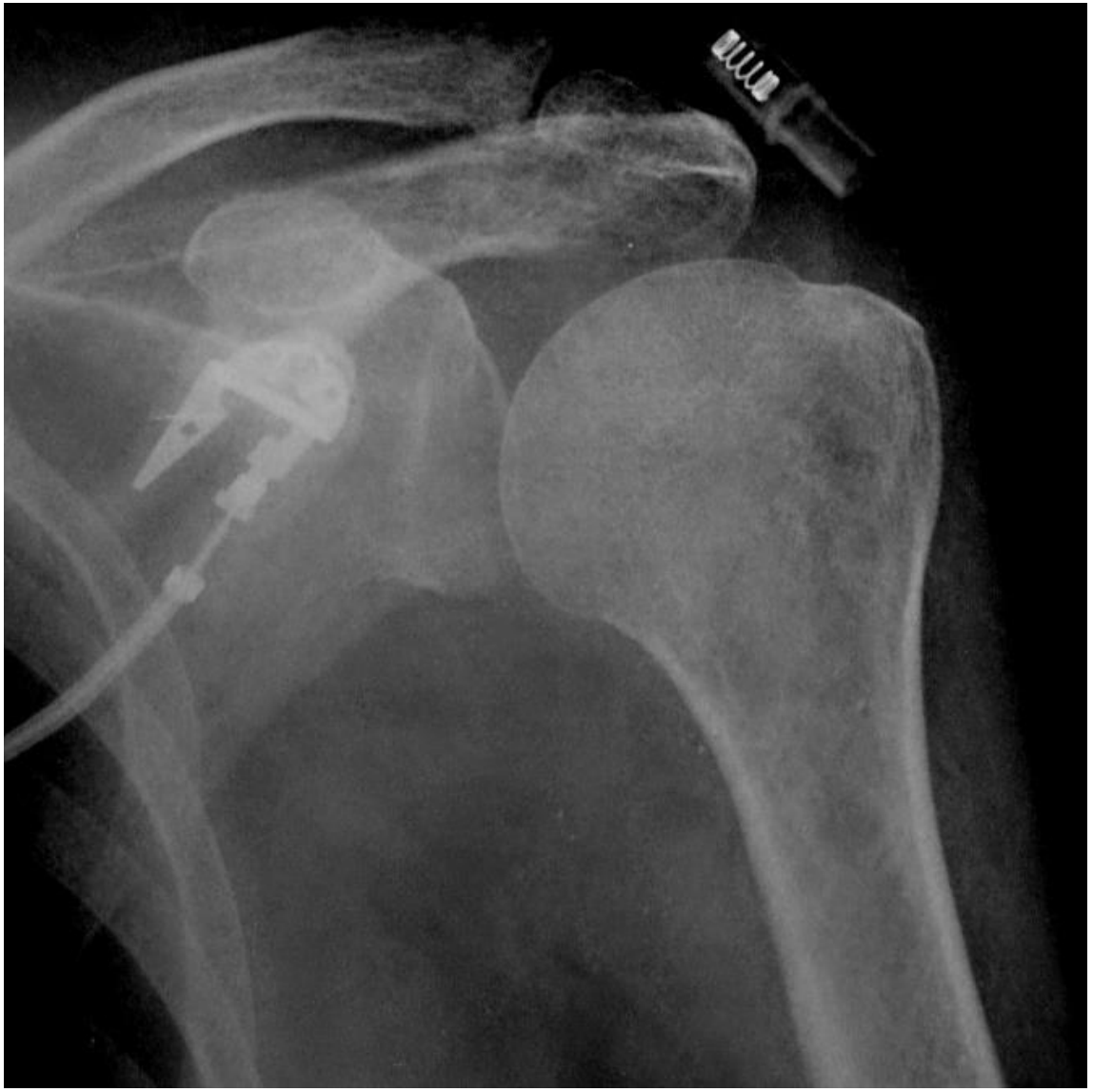
- Abnormal/fixed flexion of the thumb or snapping movement across IPJ.
- Etiology: unknown
- 3 in 1000 within 1st year of life. Bilateral in 25%.
- Pathophysiology:
  - FPL thickening (dt abnormal collagen degeneration & synovial proliferation)
  - Causing disruption of normal tendon gliding

- Presented with fixed flexion of thumb IPJ.
- May have prominent FPL nodule (Notta's node).
- Prognosis:
  - 30-60% resolve spontaneously before 2 y.o.
  - <10% resolve after 2 y.o.
  - Treatment: conservative or A1 pulley release.
  - US post resolution
    - Enlarged FPL persist, but gliding improve, dt local anatomy change and A1 pulley accommodated FPL.

Case 2

- 68 y.o lady
- 4 months ago, admitted for Gullain-barre syndrome with limb weakness and required ventilator support.
- Recently, c/o painful left shoulder.

XR 25/5/2017



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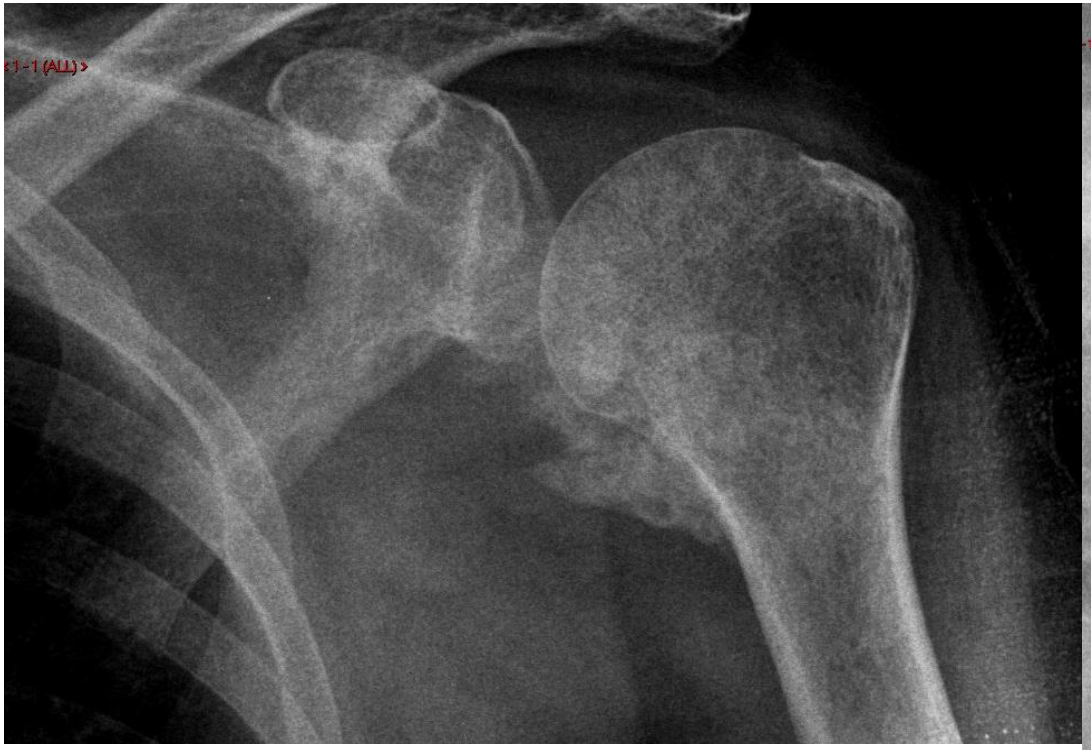

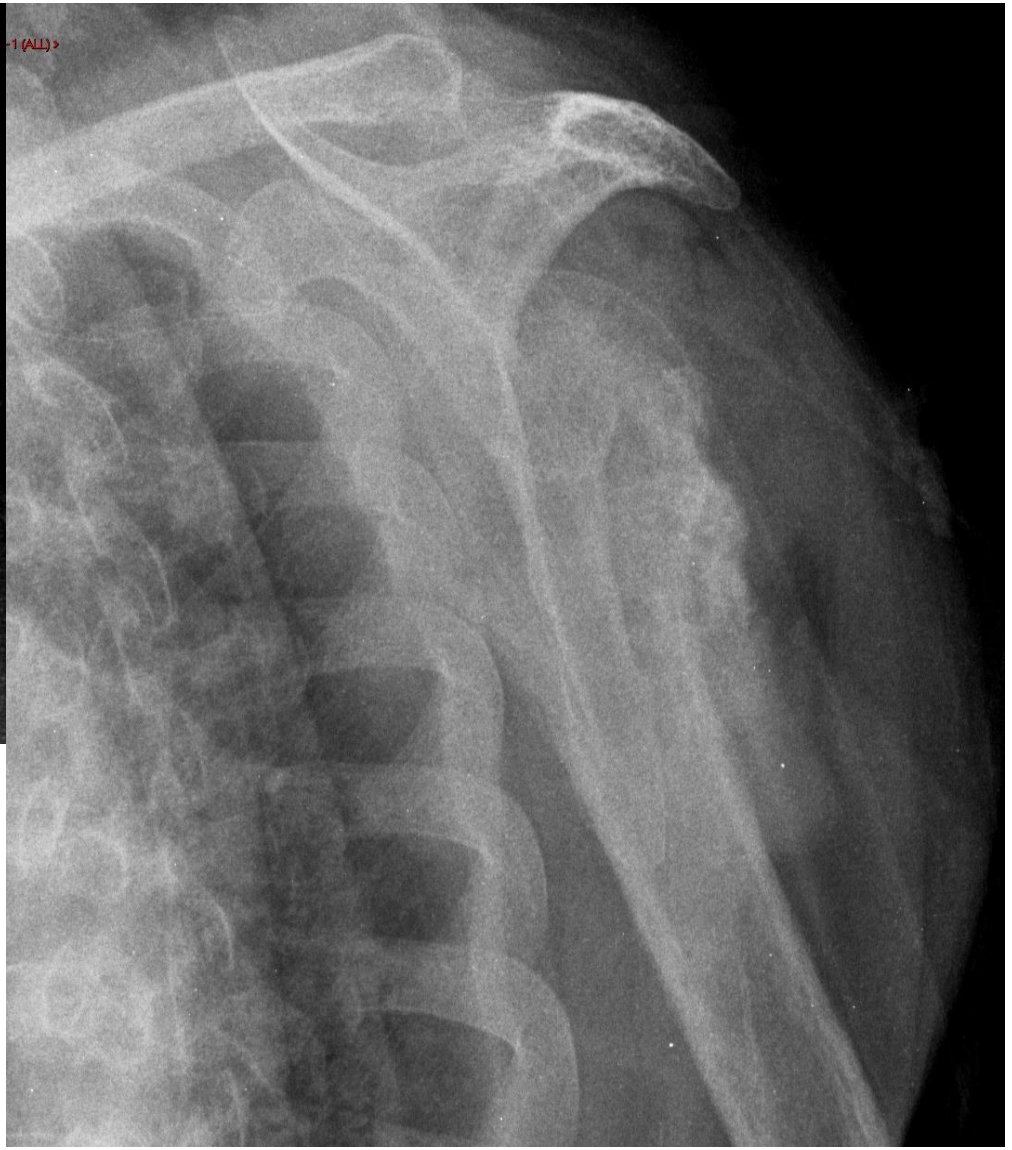

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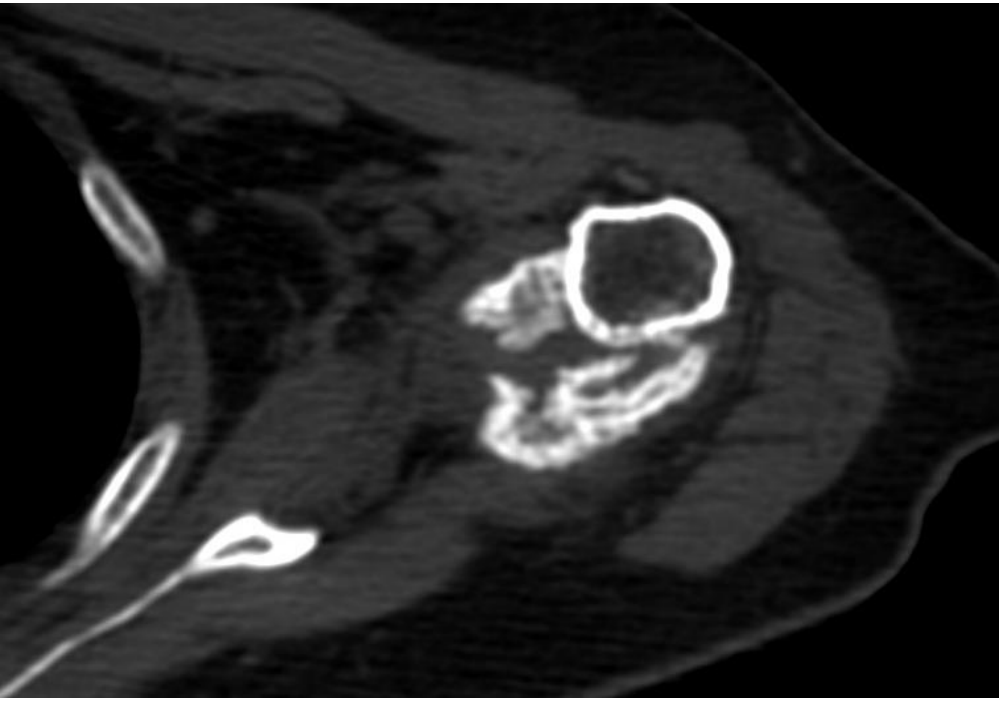
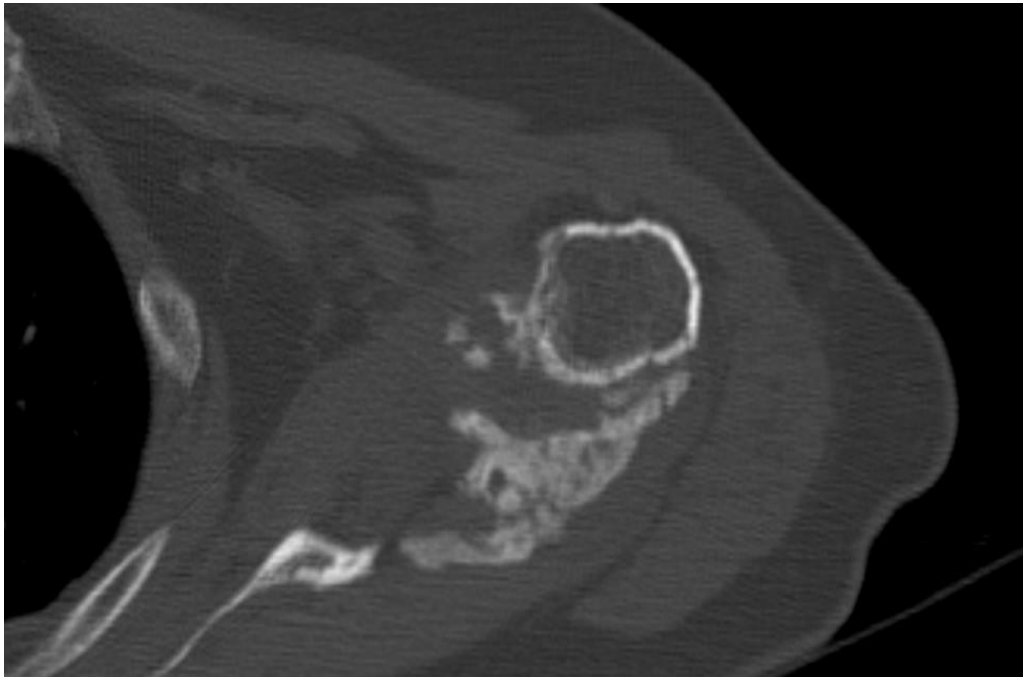
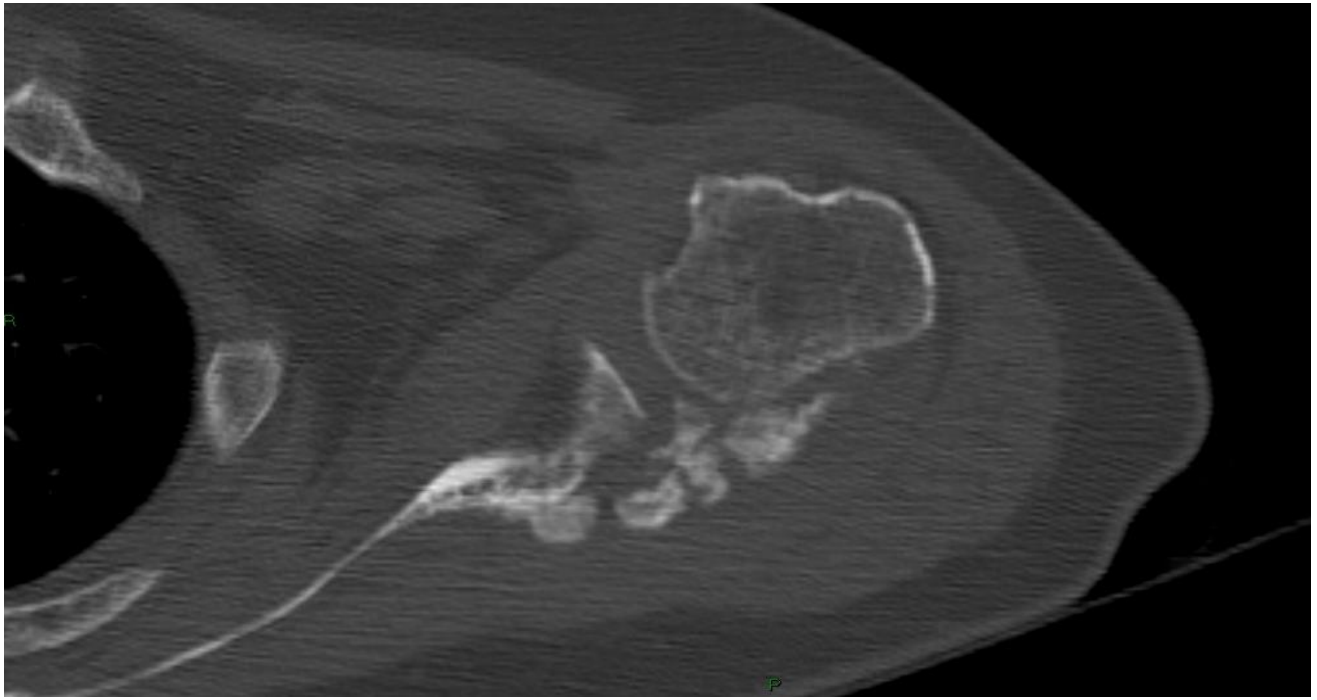
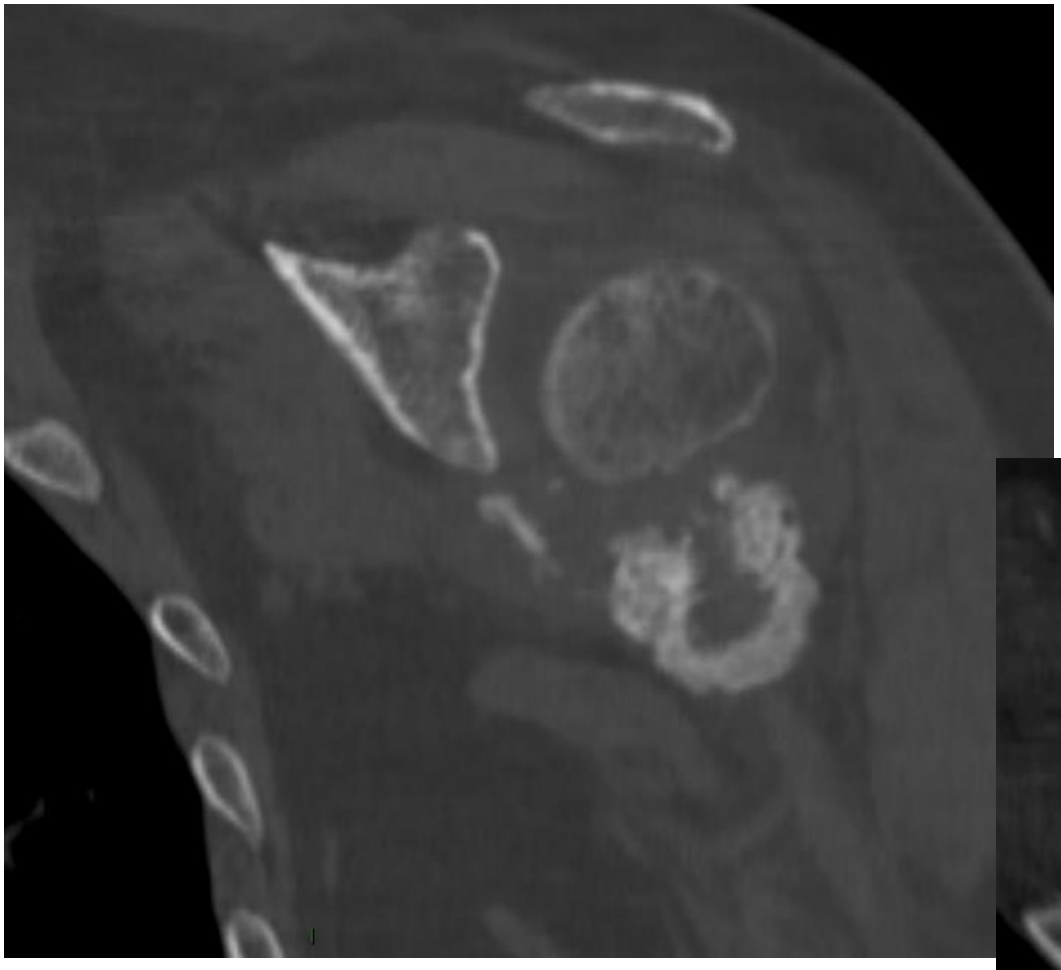
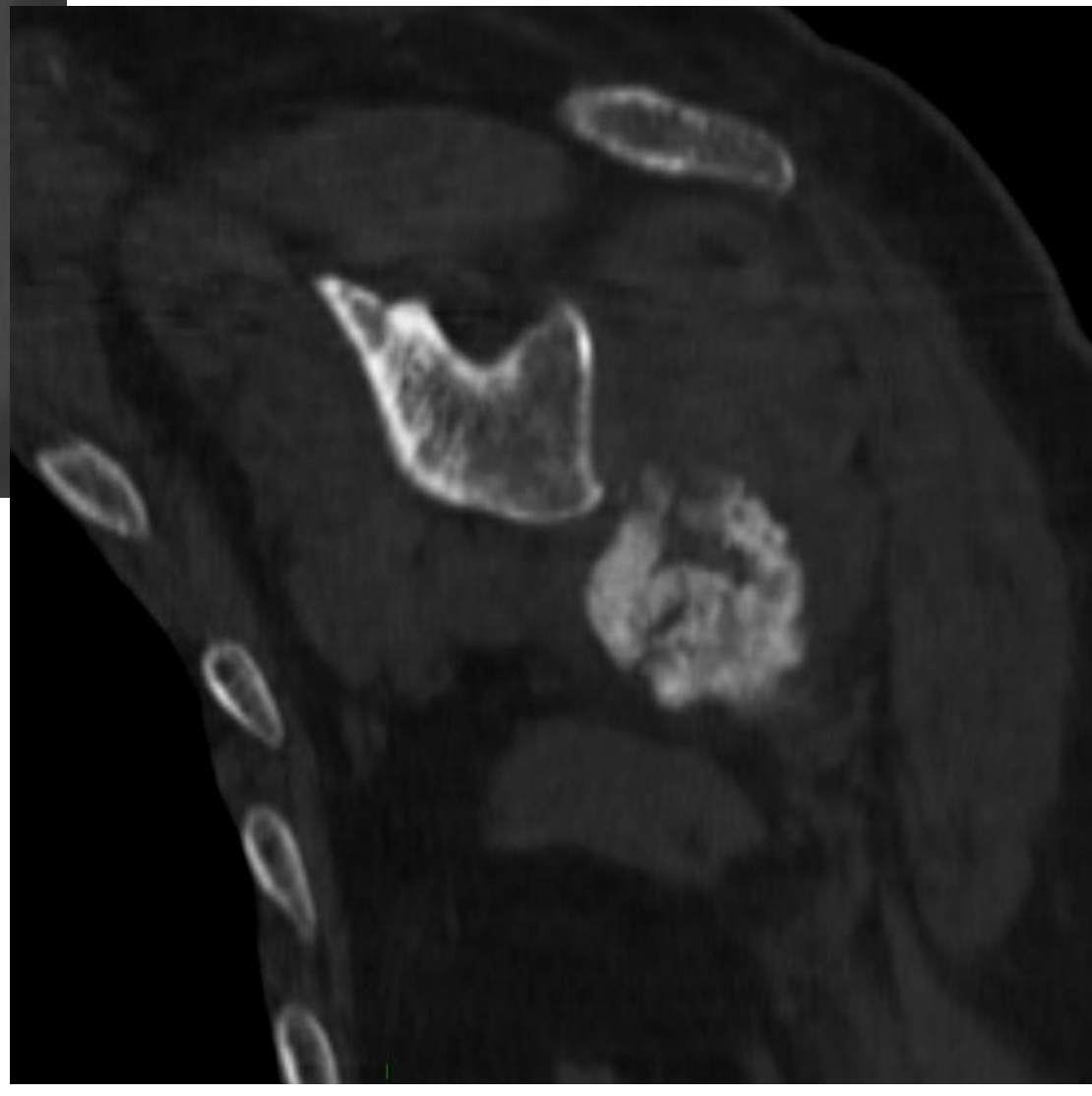






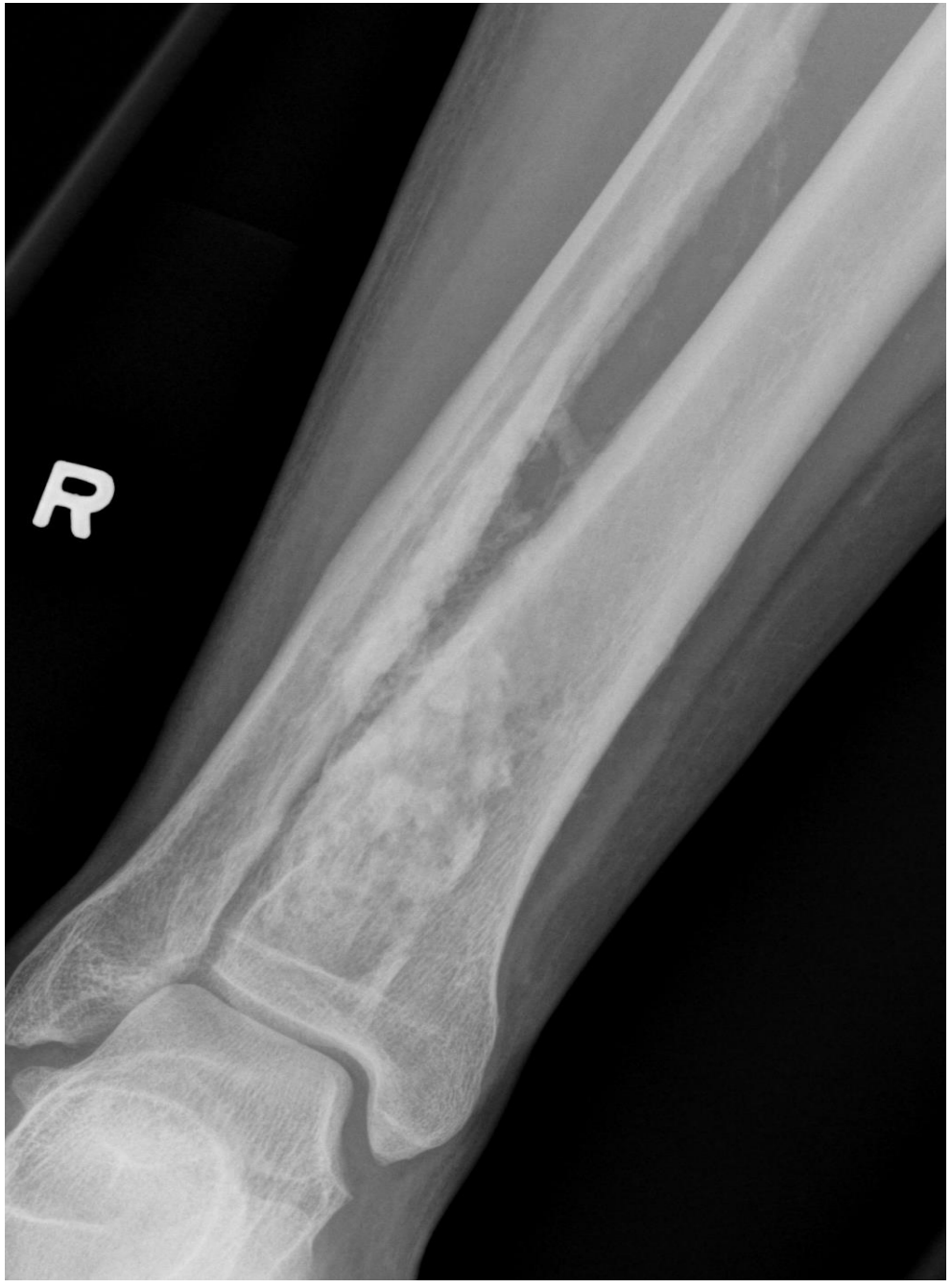


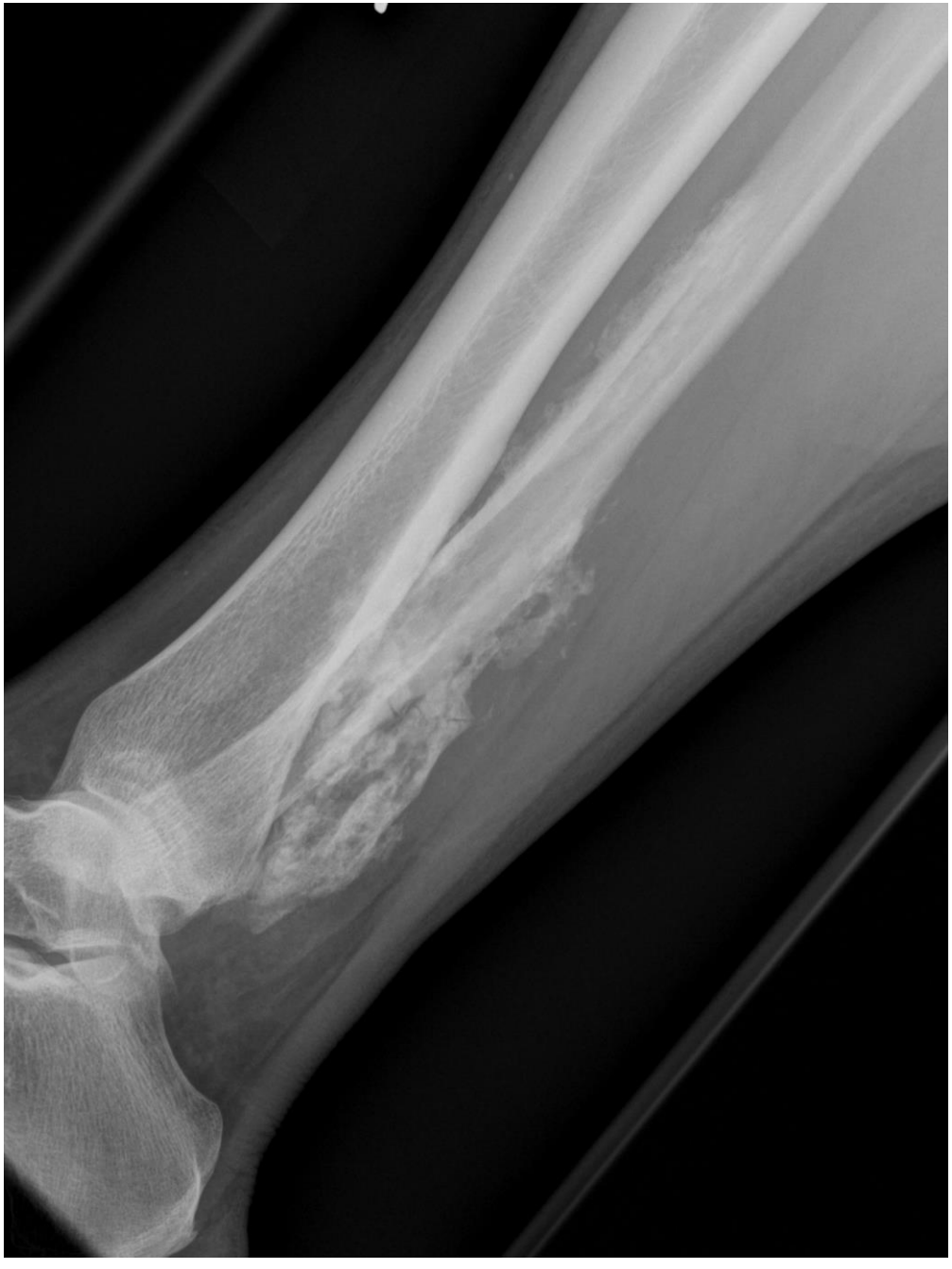


Case 3

- 40 y.o man, recreational football player.
- Right distal posterior calf swelling ~10years.
- No distal neurovascular deficit.

Radiograph (2.5.2017)





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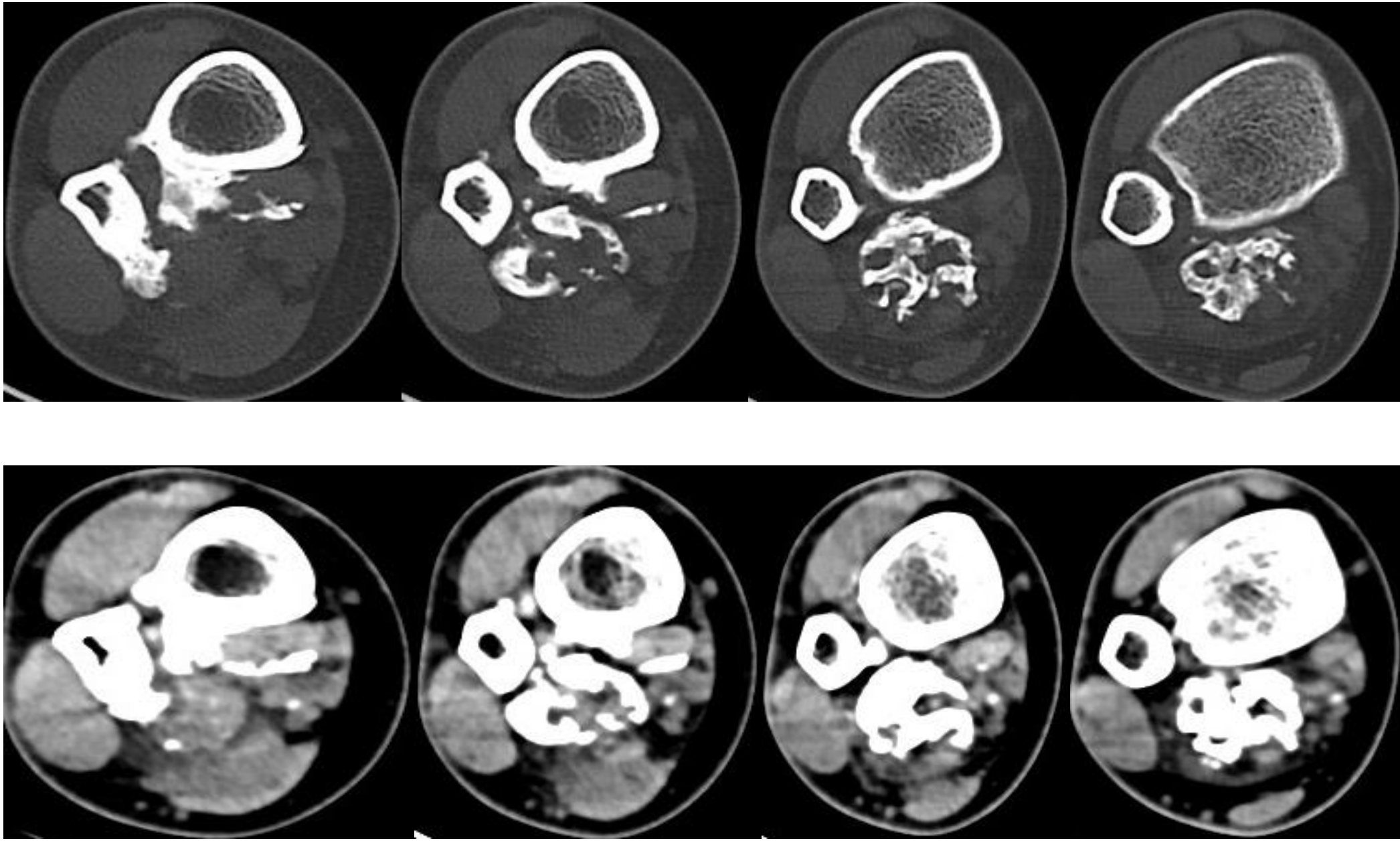
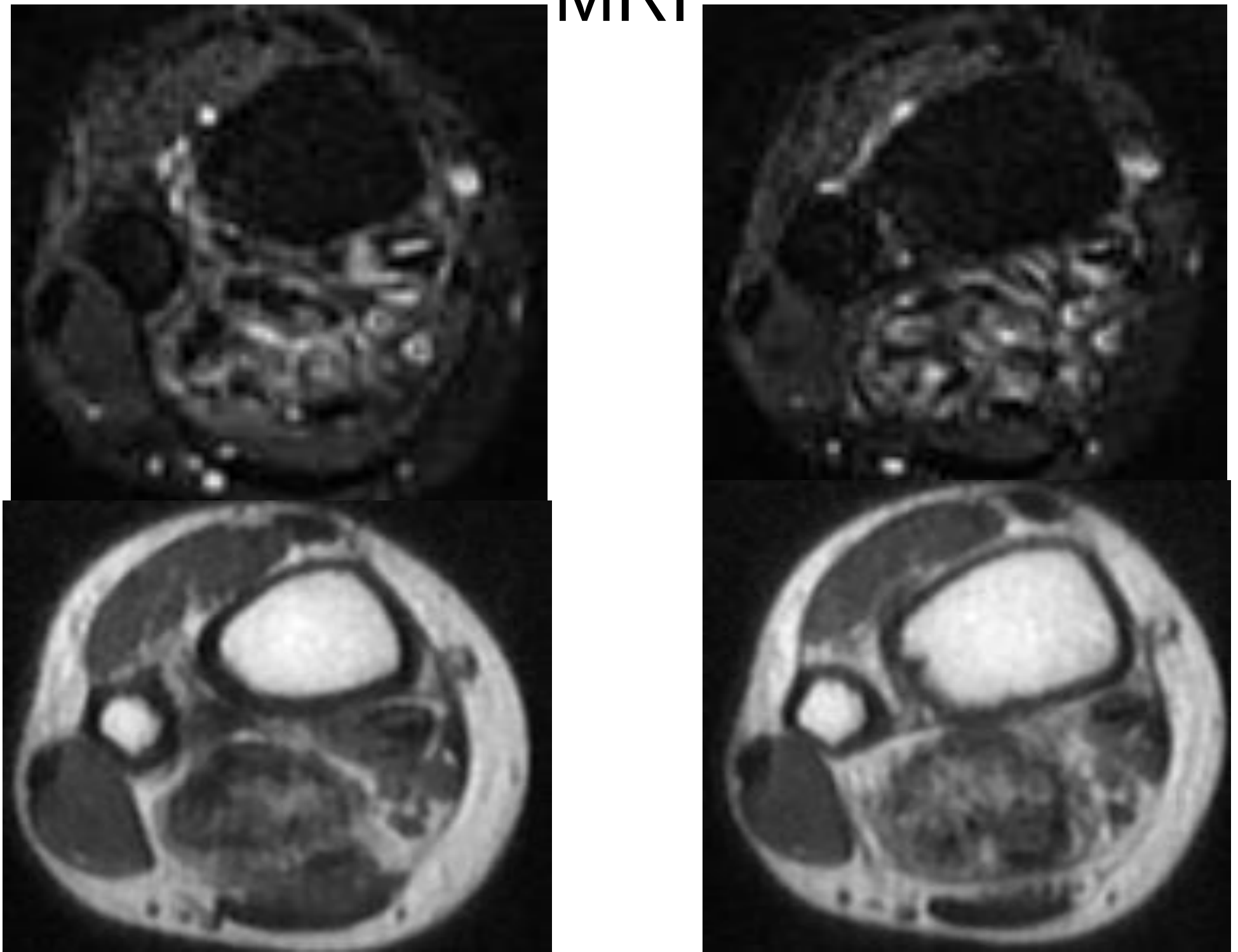
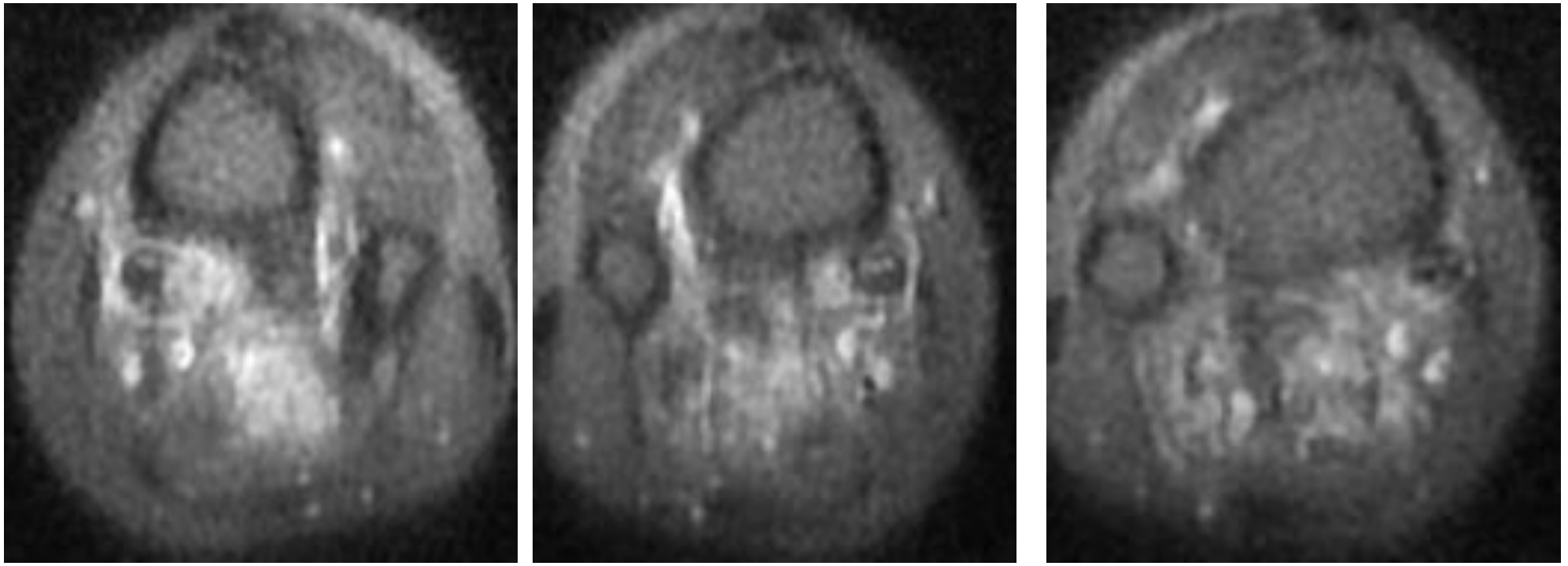


MRI





Histopathology

- Lamellar bone with necrotic material and blood clot.
- No malignant cells.

Myositis Ossificans

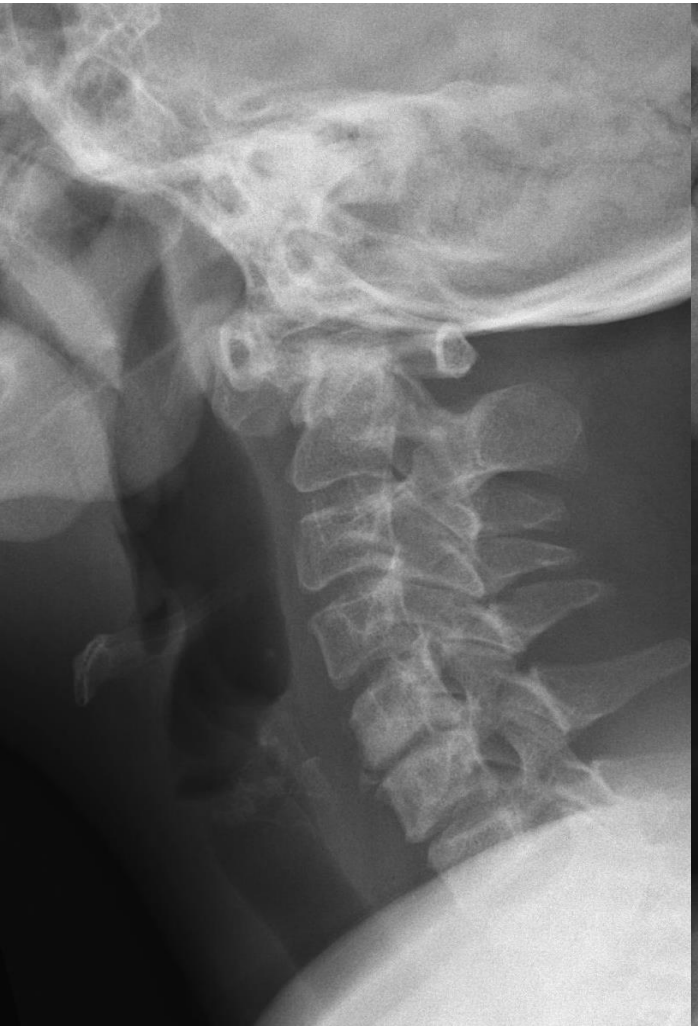
- An inflammatory pseudotumour
- Radiographic appearances change with time.
- Most important diagnostic feature:
  - zoning pattern of peripheral maturation.
  - Ossification is peripheral & centripetal.

- Early phase
  - Soft tissue mass, periosteal reaction,
  - Extensive muscle edema
- Subacute phase
- Mature phase
  - Rim/peripheral calcification or with crenated outlined, separation of mass from cortex

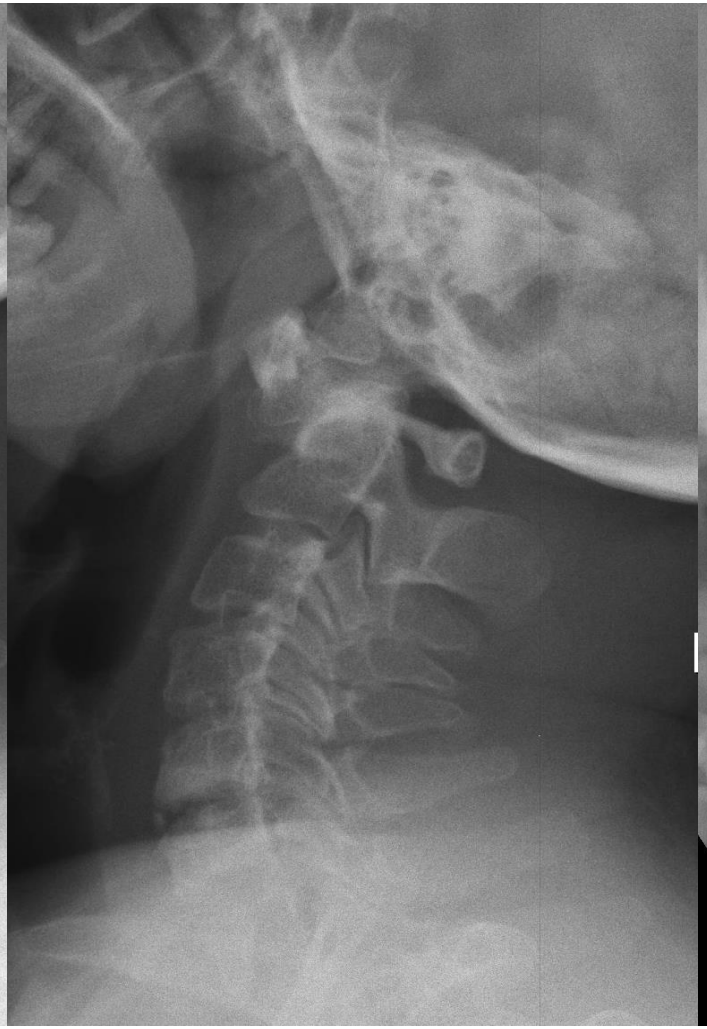
Case 4

- 33 y.o lady, Down Syndrome
- Progressive weakness of both lower limb in the past few years.
- Deteriorate from walking independently to walking with walking frame.

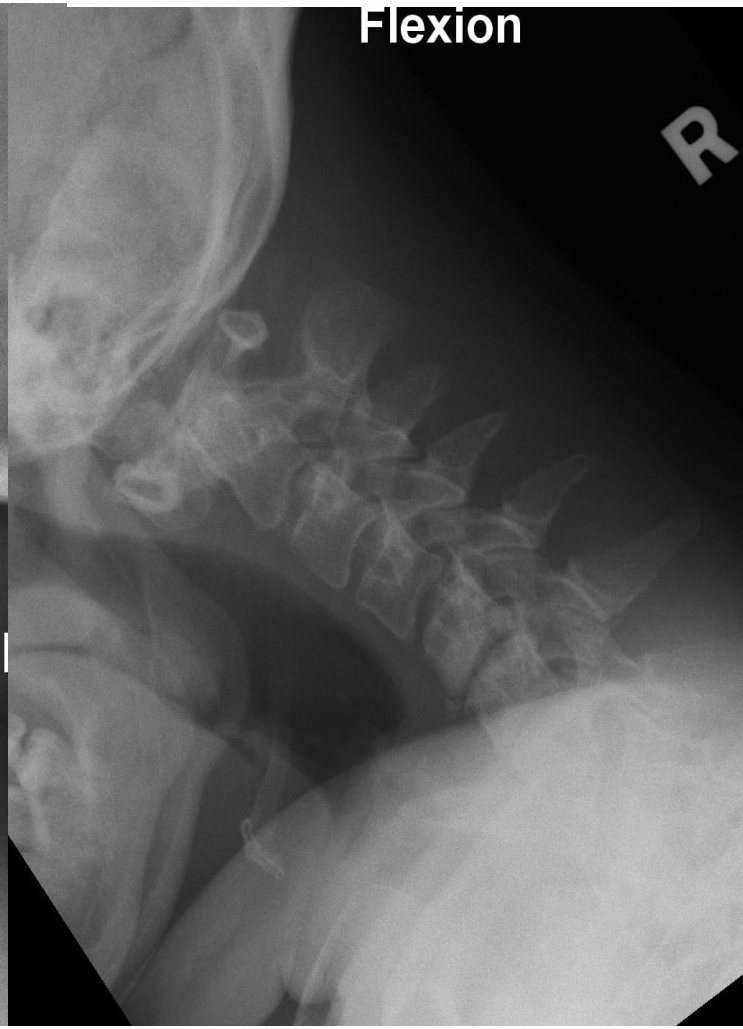
XR



Neutral



Extension



Flexion

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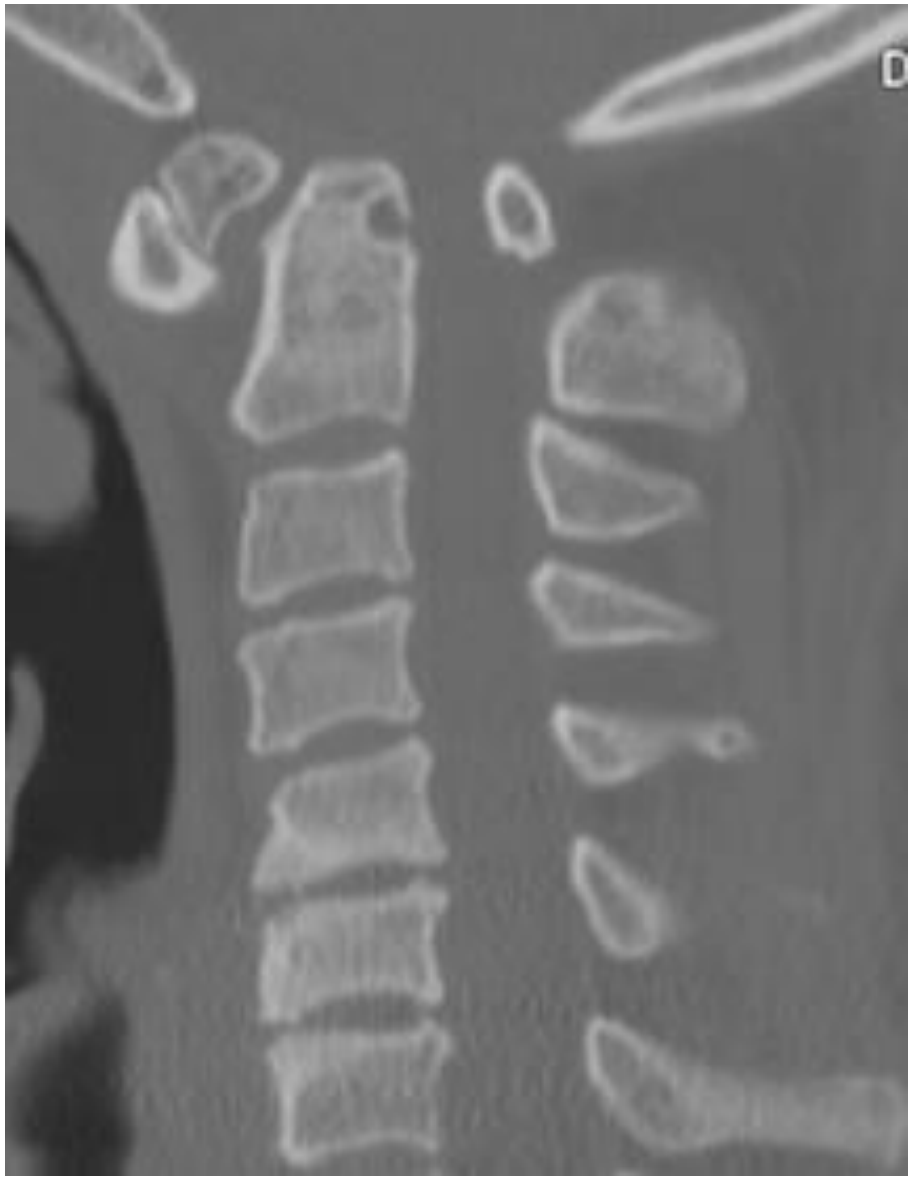
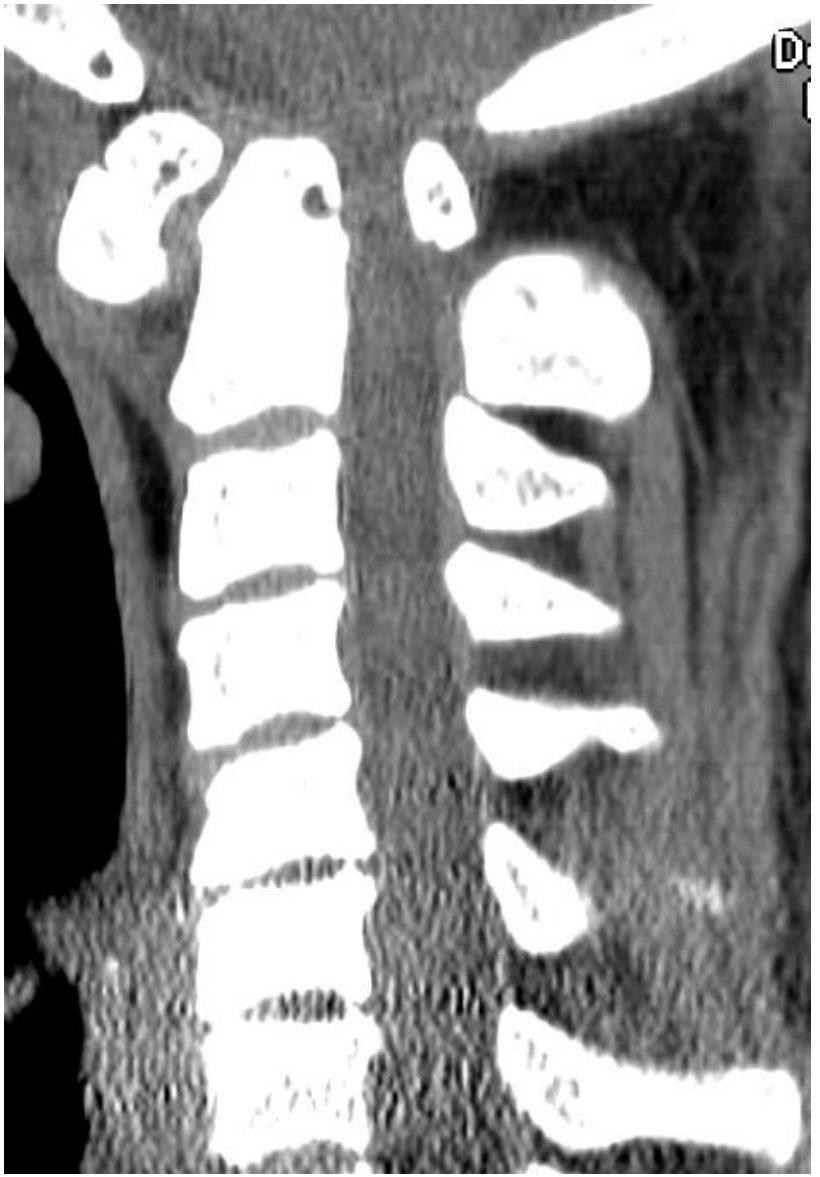
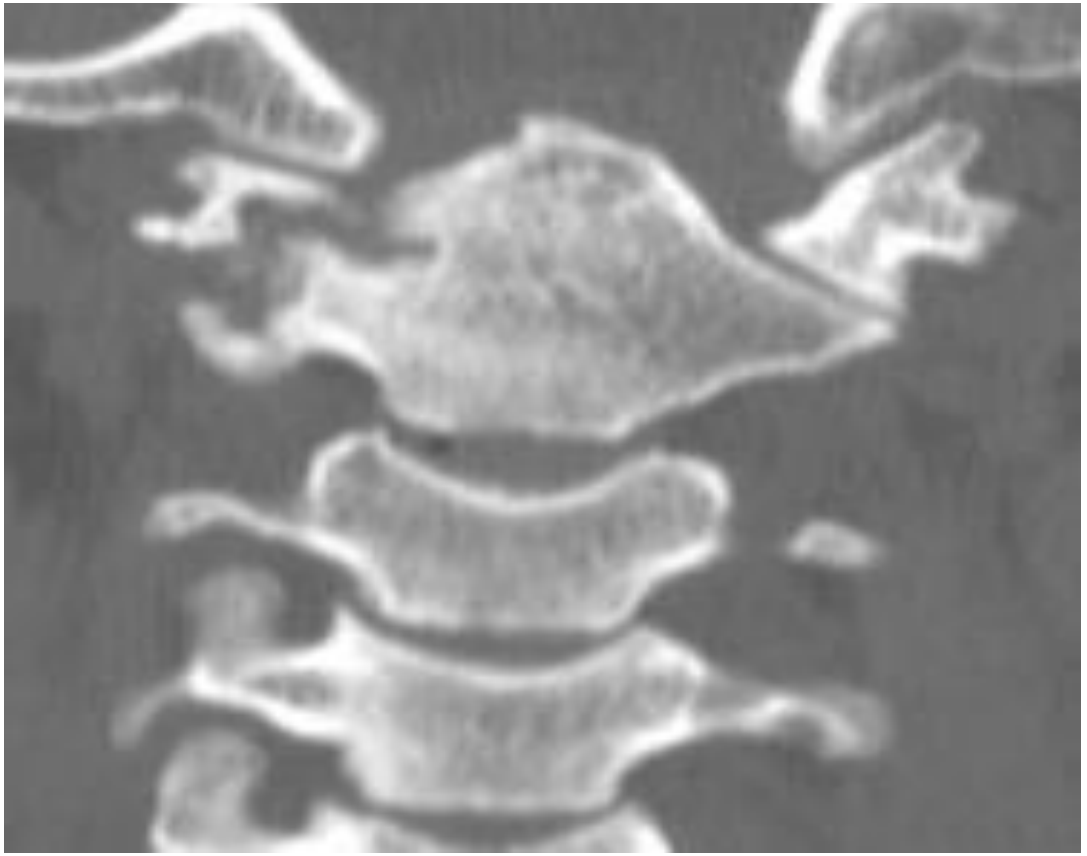
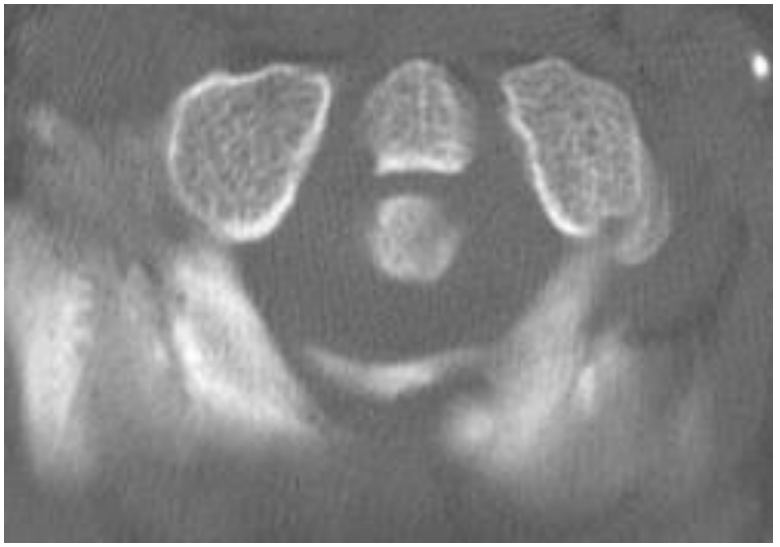
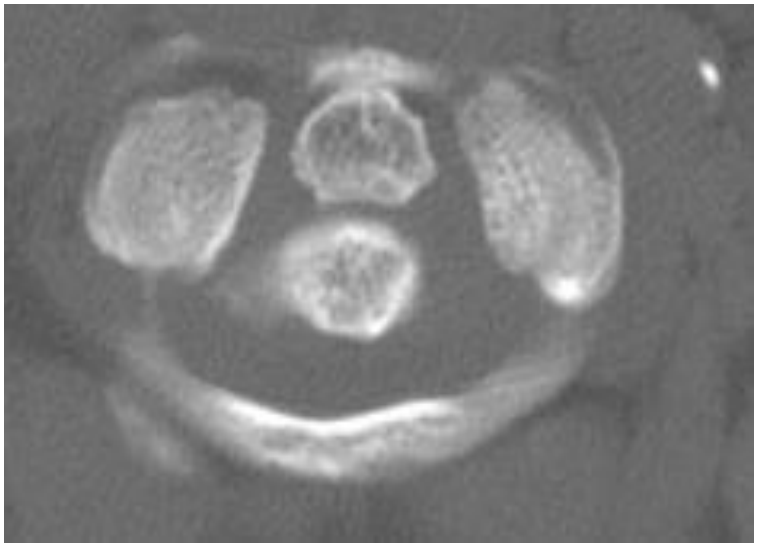
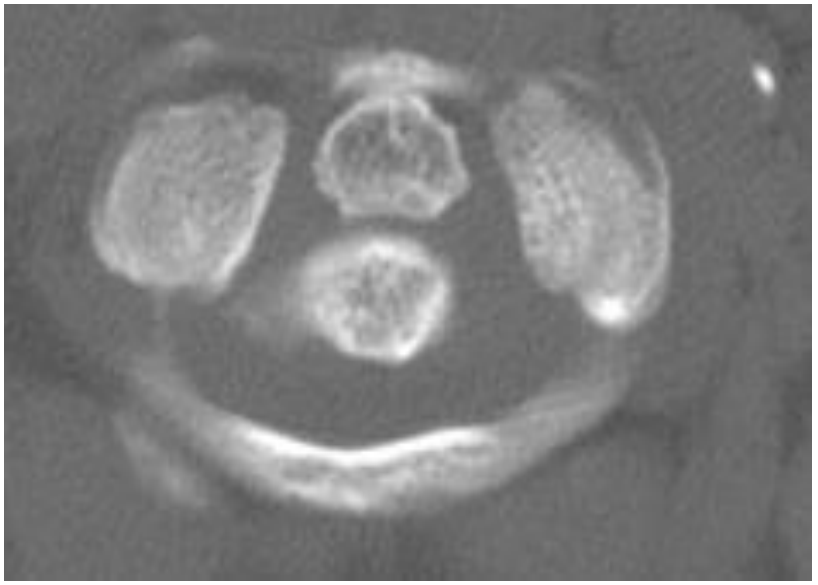


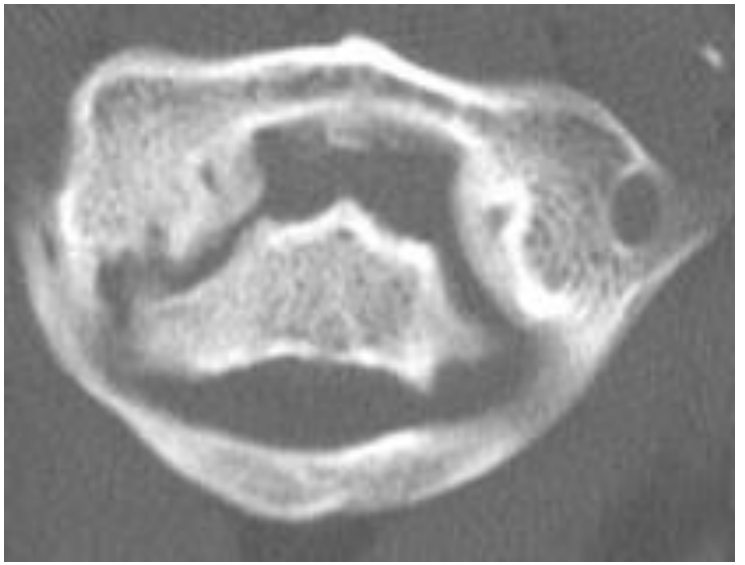










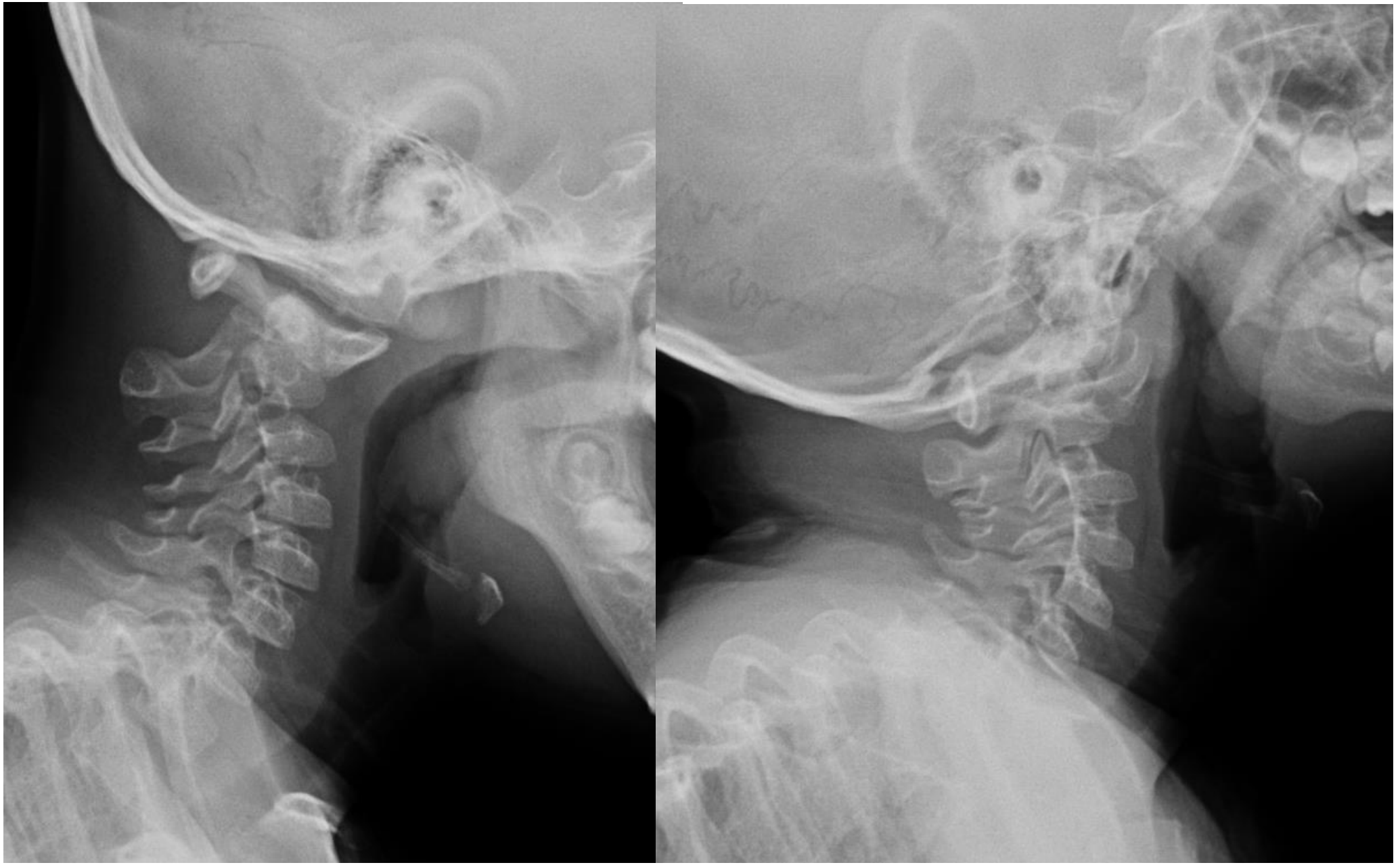


Atlanto-axial Subluxation and Os Odontoideum in Down Syndrome

Case 5

- 6 y.o. Boy, Down Syndrome.
- Presented with weakness of all the 4 limbs after a car ride (sleeping with neck flexion for about 2 hours).
- Symptoms improved after 1 week but recurred later on.
- No history of trauma.

XR



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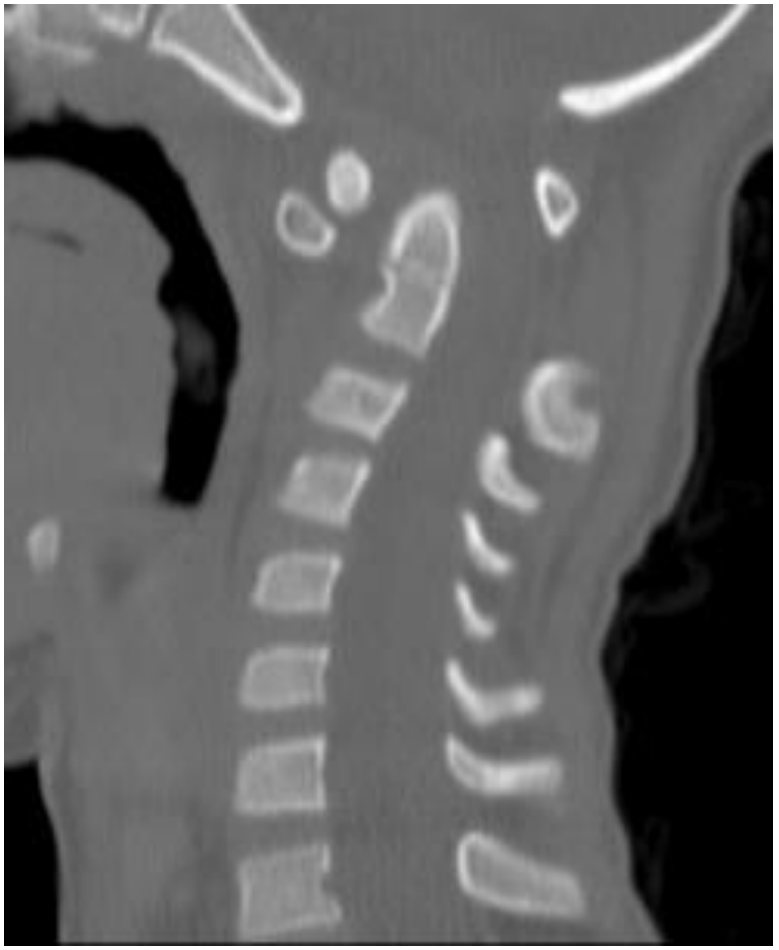
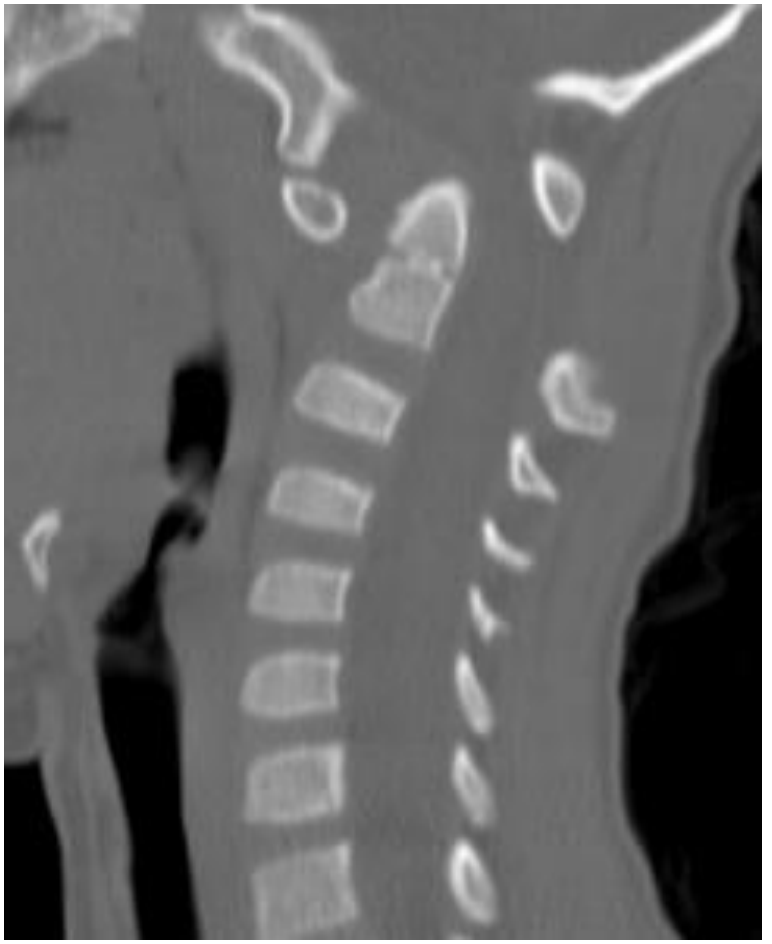
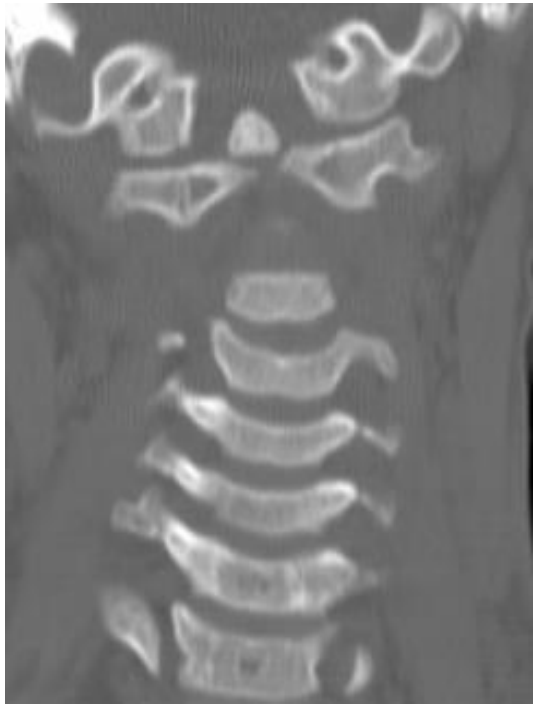
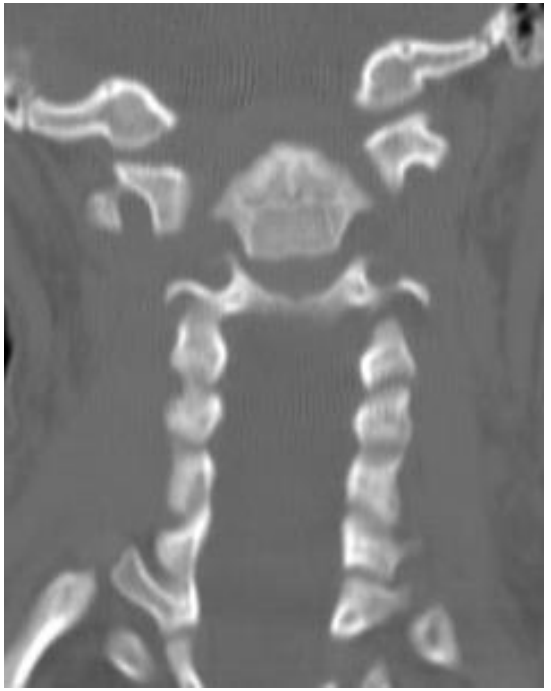
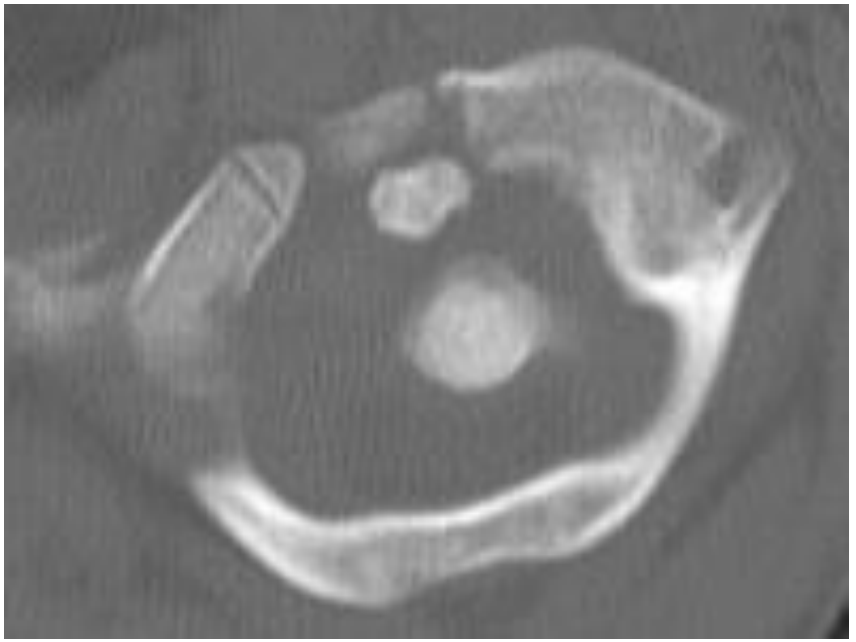


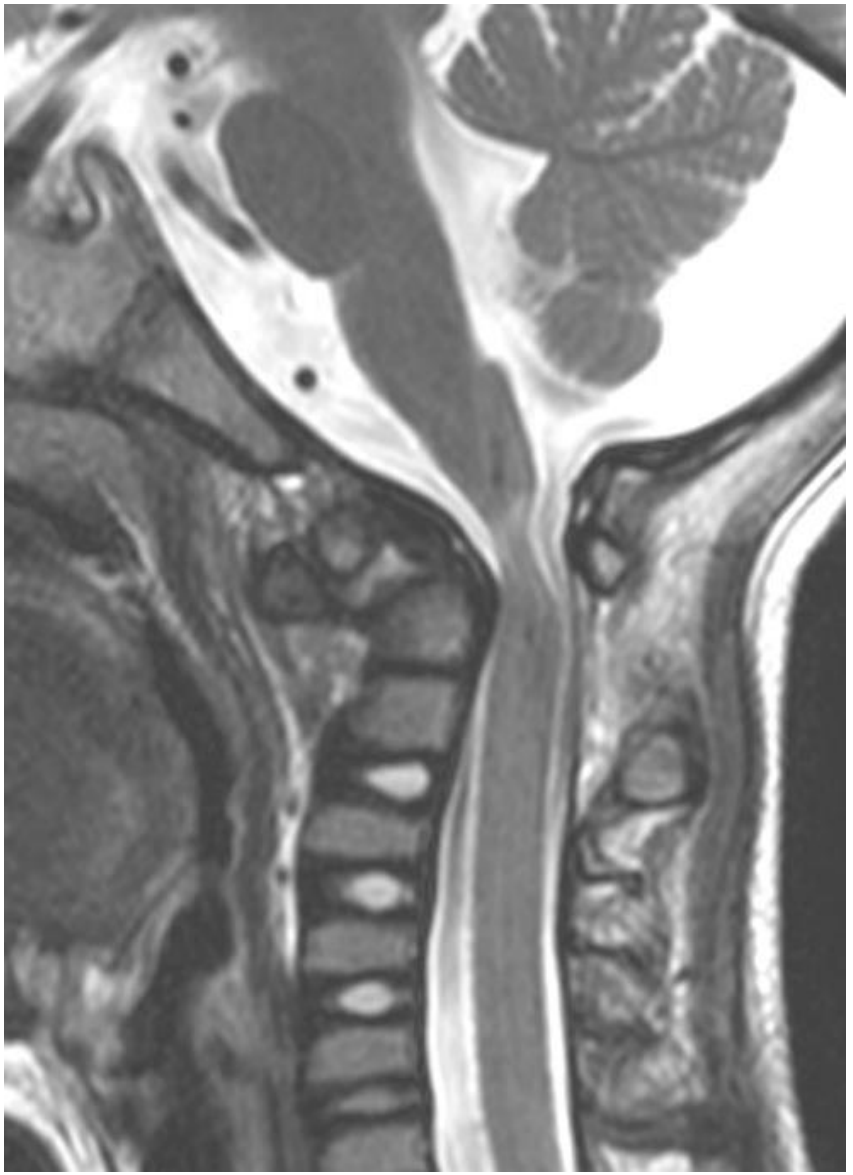








MRI



Narrowing of cranio-cervical junction with cord compression and myelomalacia

Discussion

- Atlantoaxial instability affects 10-20% of Down Syndrome (DS) patients.
- Mostly asymptomatic.
- Symptoms due to spinal cord compression.

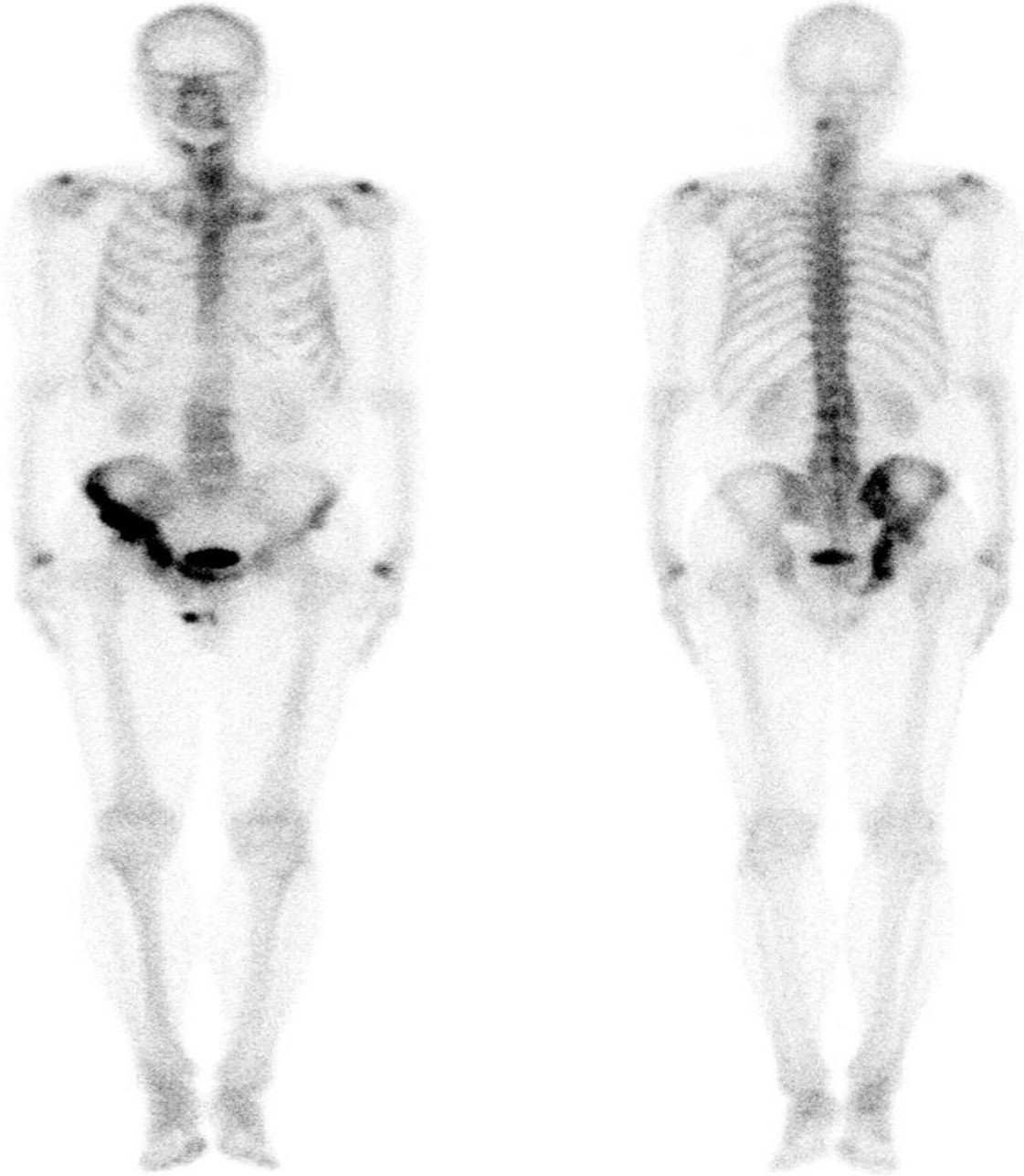
Os Odontoideum

- Well-corticated ossific density along the superior margin of a relatively hypoplastic/foreshortened base of dens.
- Orthotopic/dystopic
  - orthotopic: normal position with a wide gap between C2 and os odontoideum (gap above superior articular facet).
  - A dystopic ossicle may be fixed to the clivus or to the anterior ring of the atlas.
- Commonly associated with antlanto-axial instability.
- Associated with
  - Hypetrophied and rounded anterior arch of C1

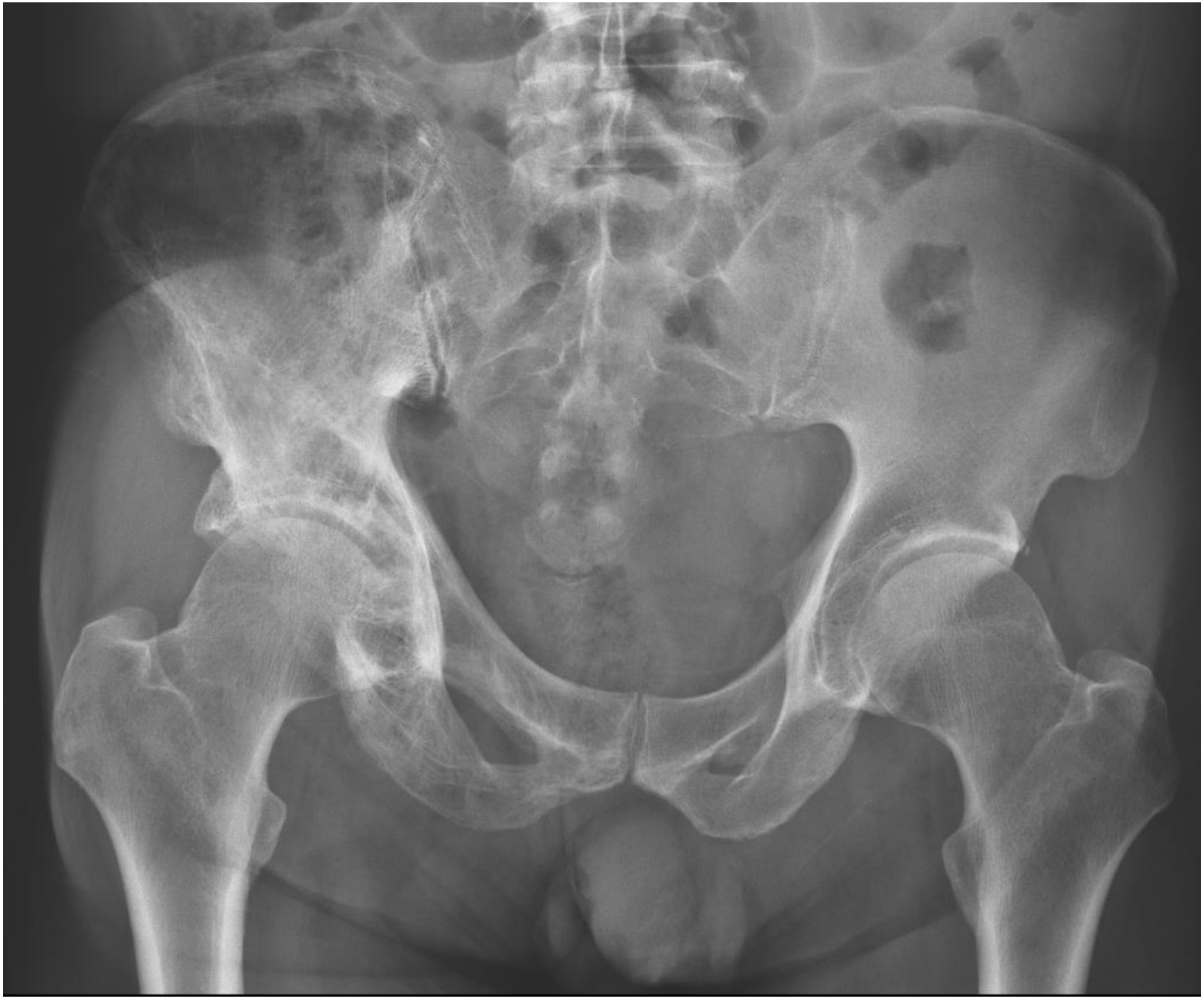
Case 6

- 71 y.o man
- T1a right vocal cord carcinoma in 2003.
- Elevated ALP during medical check up.
- Otherwise, symptomatic.

BONE SCAN



XR



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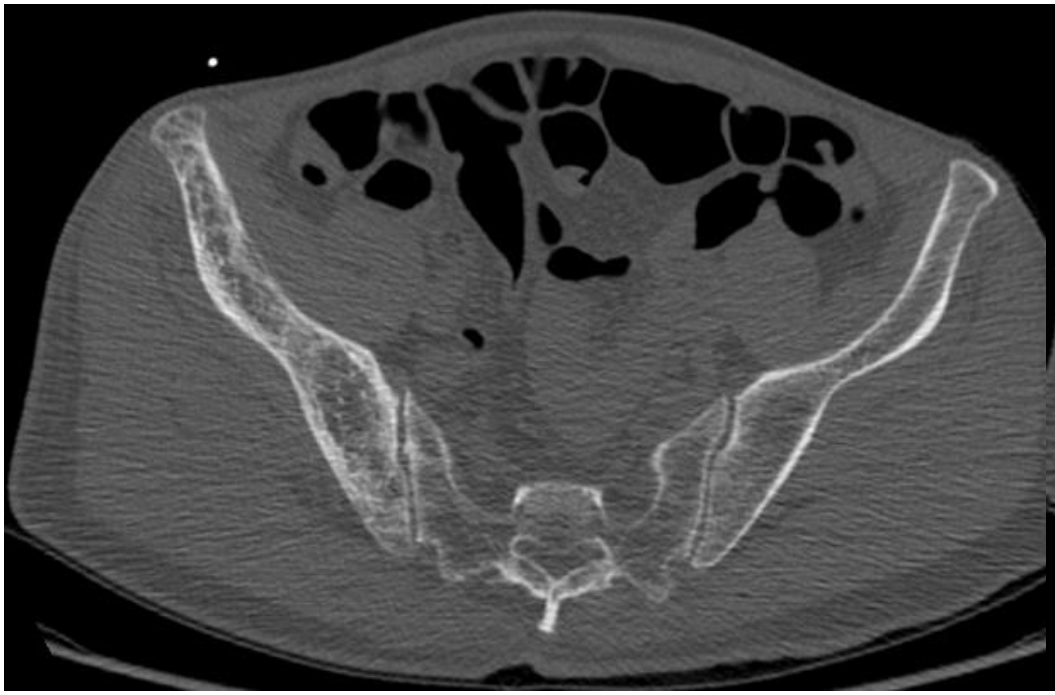
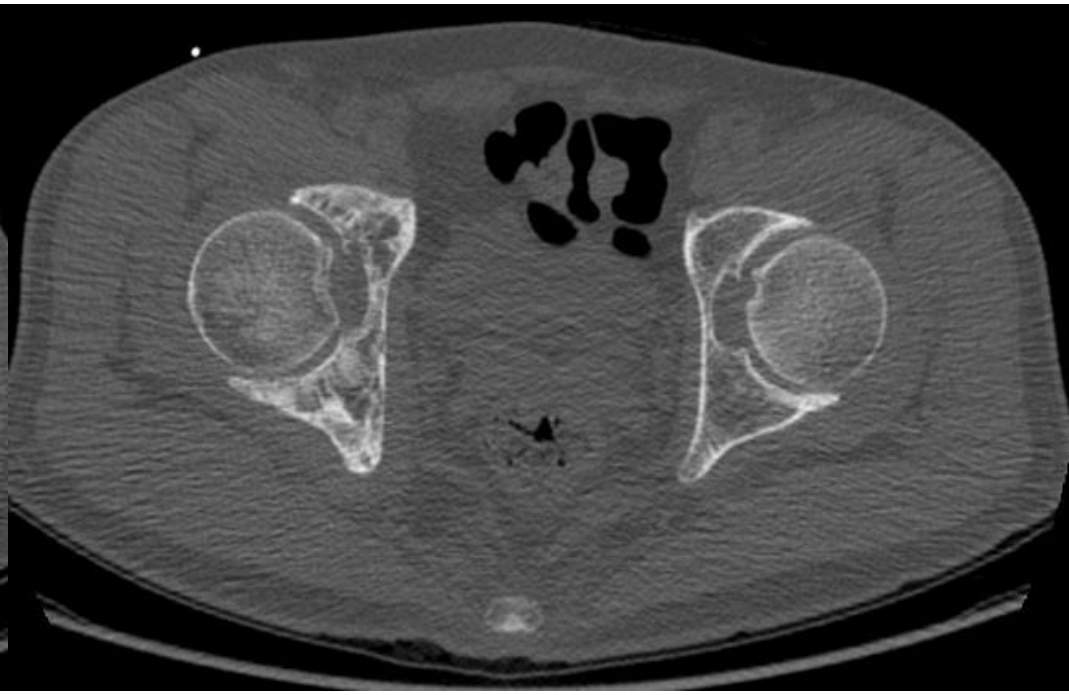
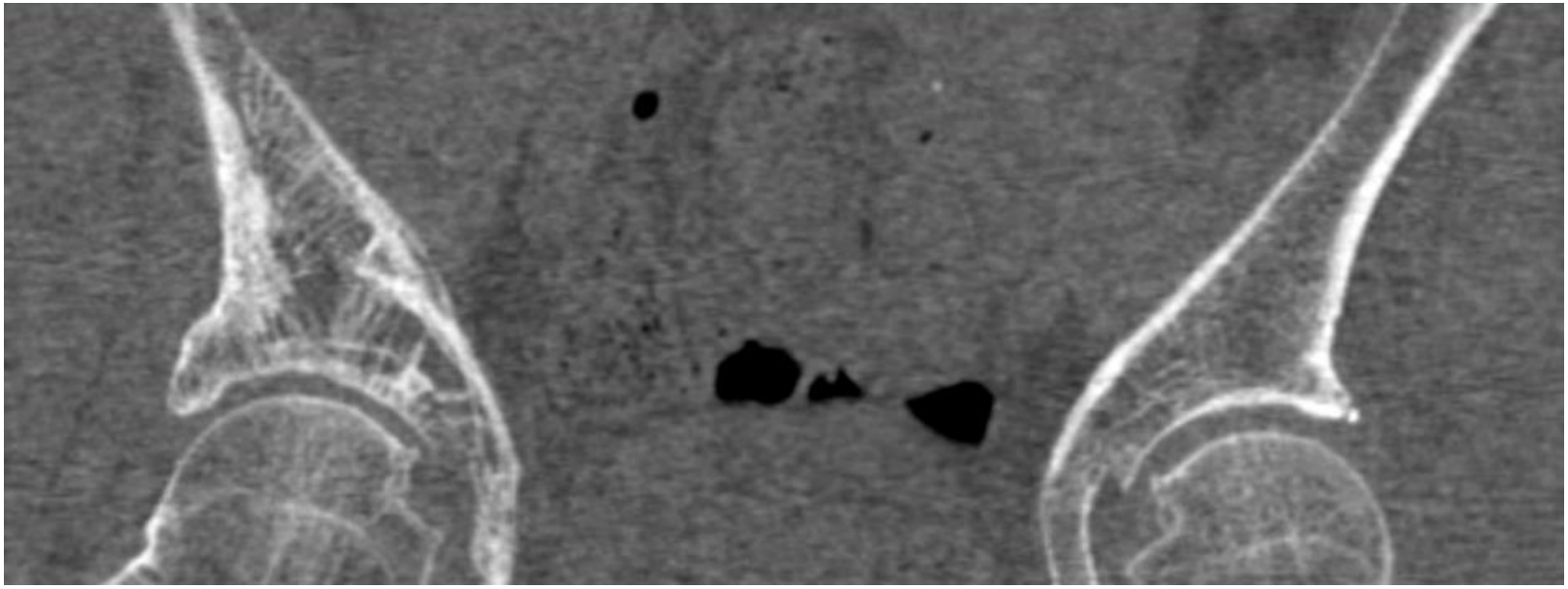




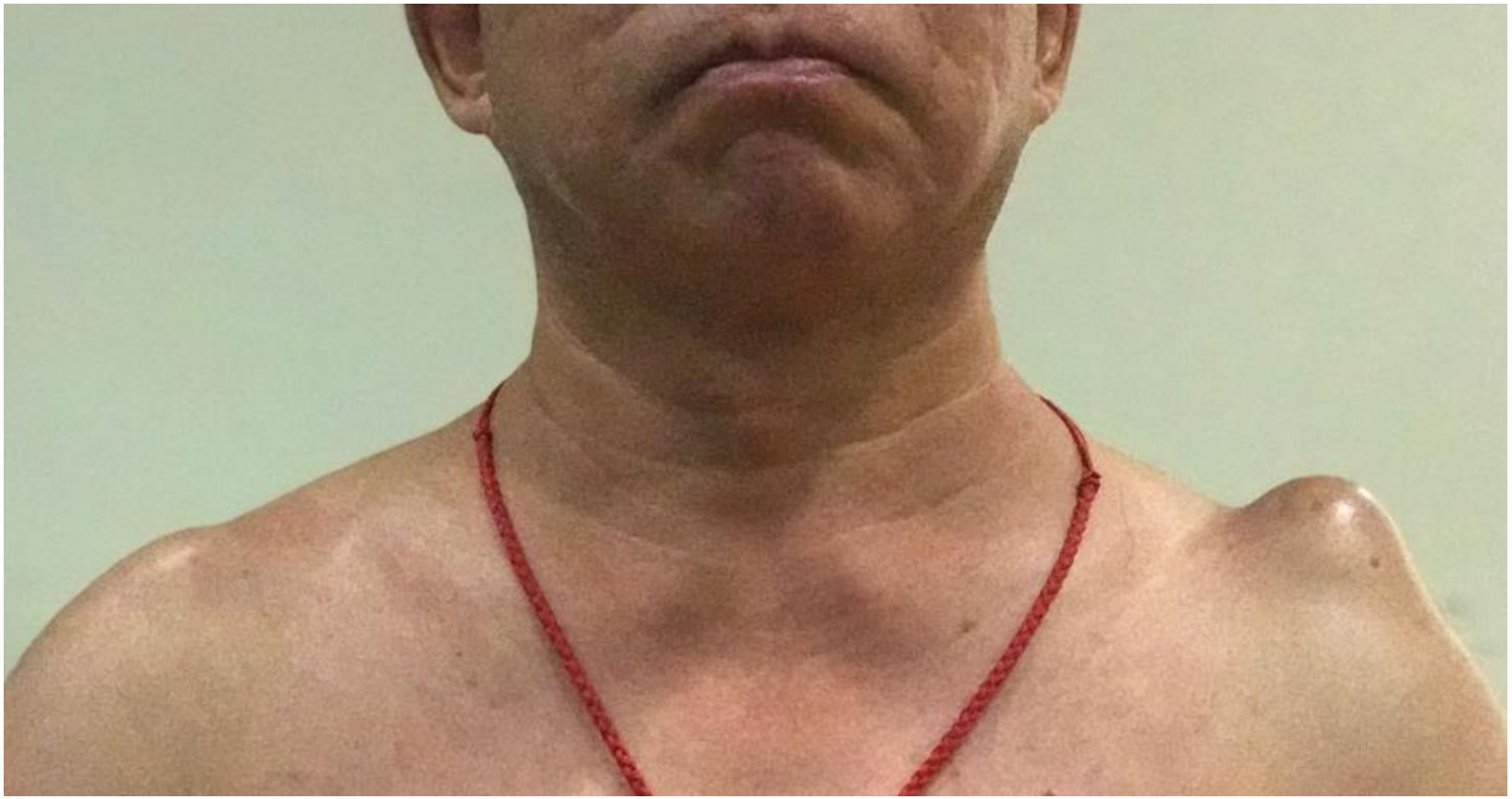


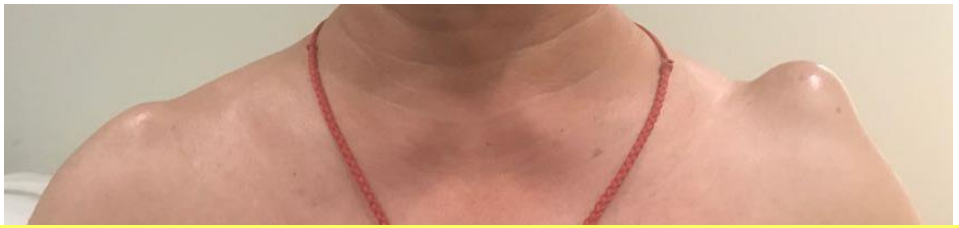
Diagnosis: Paget disease

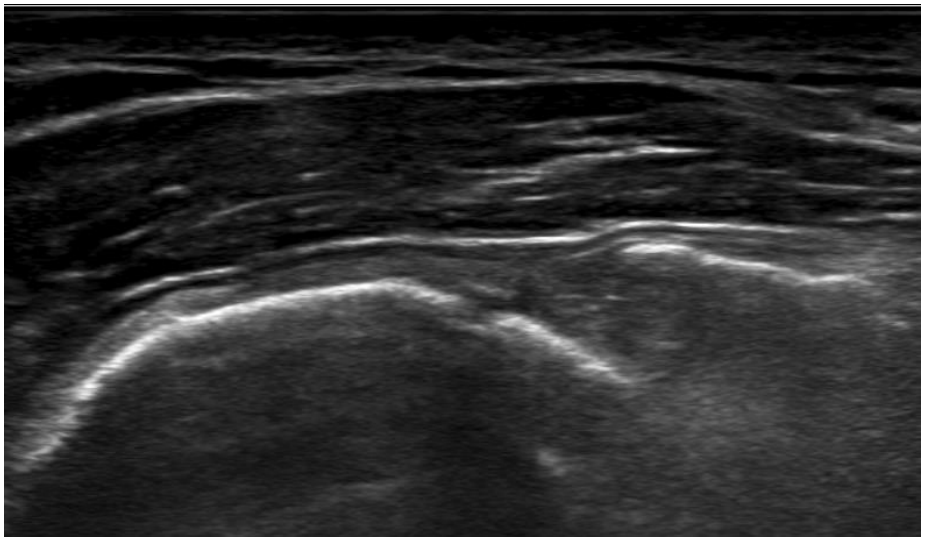
- 3-4% of individual >40 y.o (in US, Europe, rare in Asia, Africa).
- Causes: unknown.
  - 3 phases: lytic; mixed and blastic phases.
- Radiographic appearance dt:
  - Abnormal osseous resorption & apposition within periosteal & endosteal cortex.
  - Produces disorganized new bone.

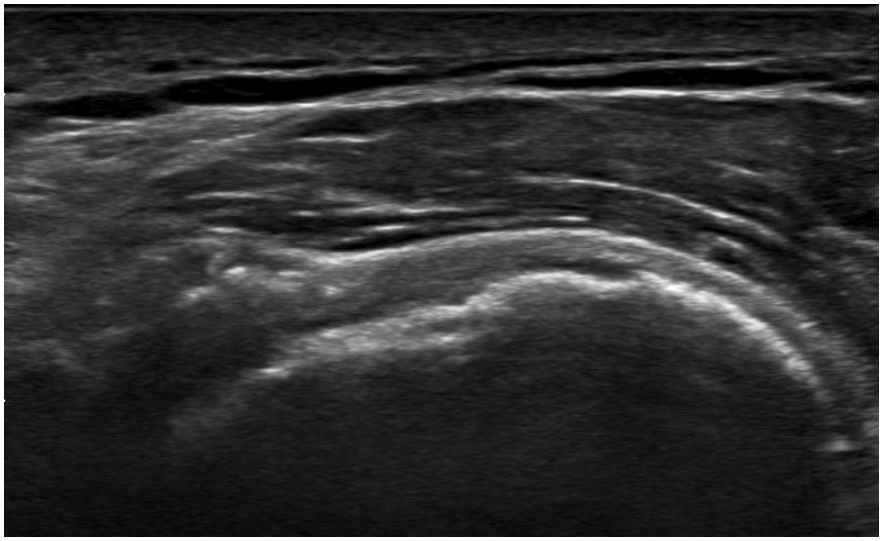
Case 7

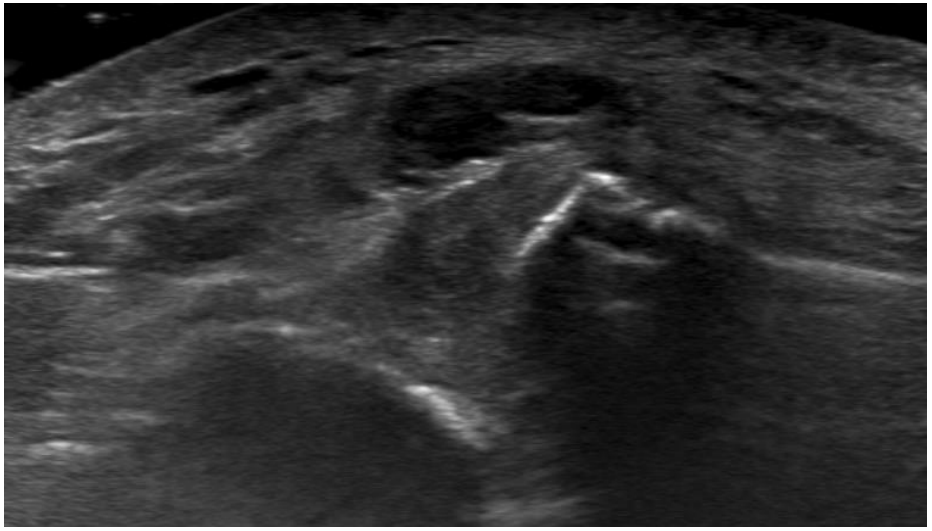
- 63 y.o man.
- C/O left shoulder swelling for 3 months.

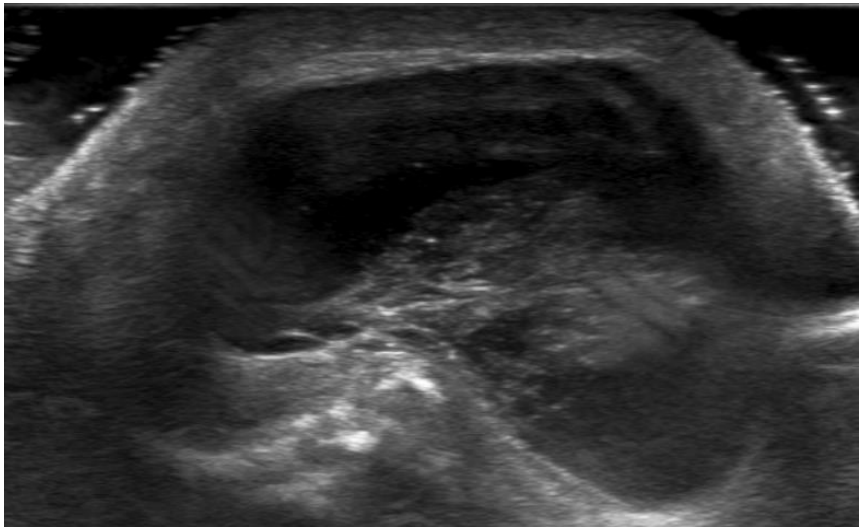










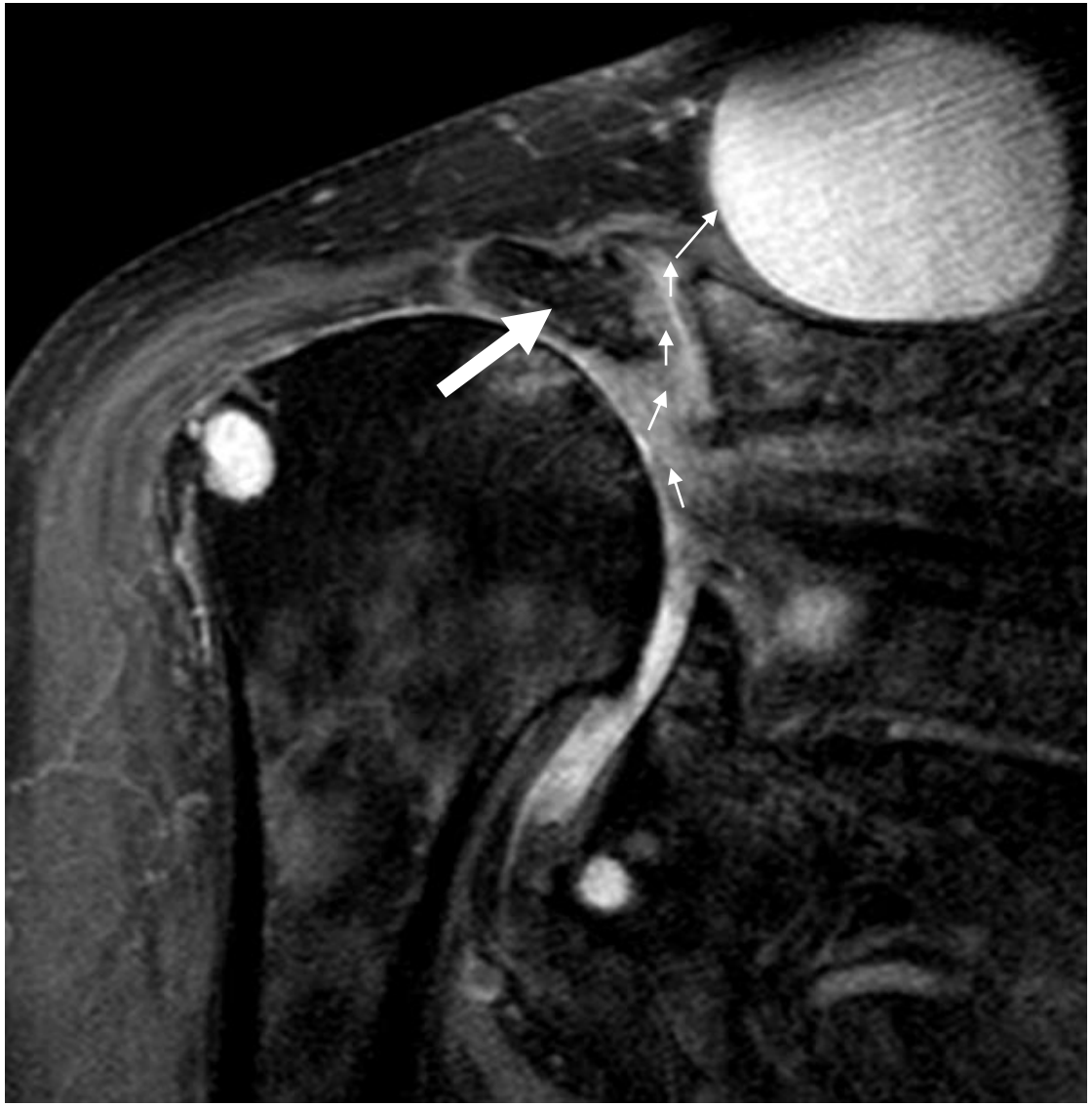


Severe RC arthropathy

Large RC tear

Superior migration

Cartilage thinning

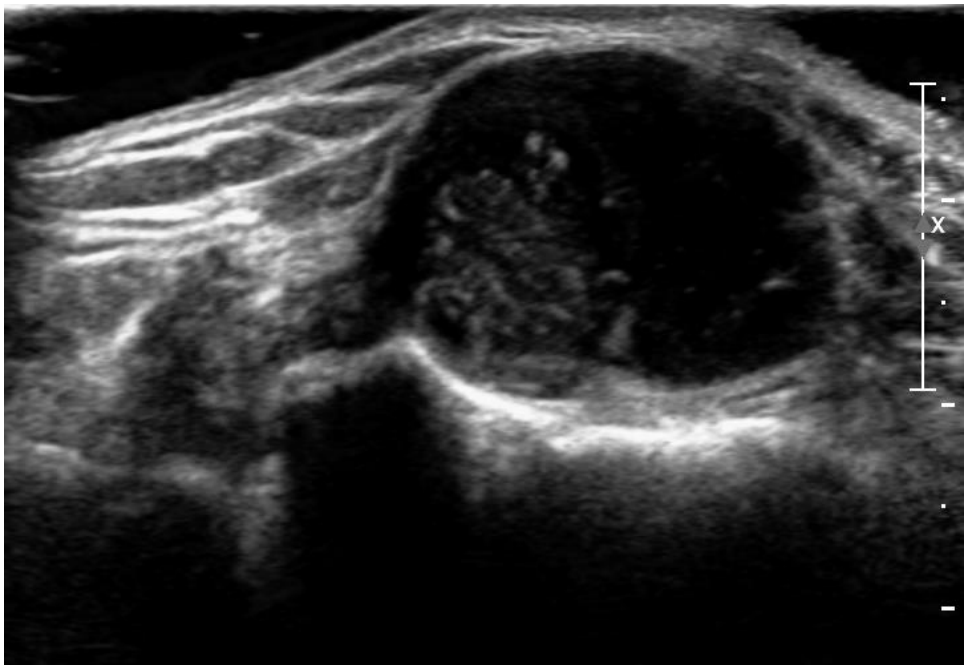


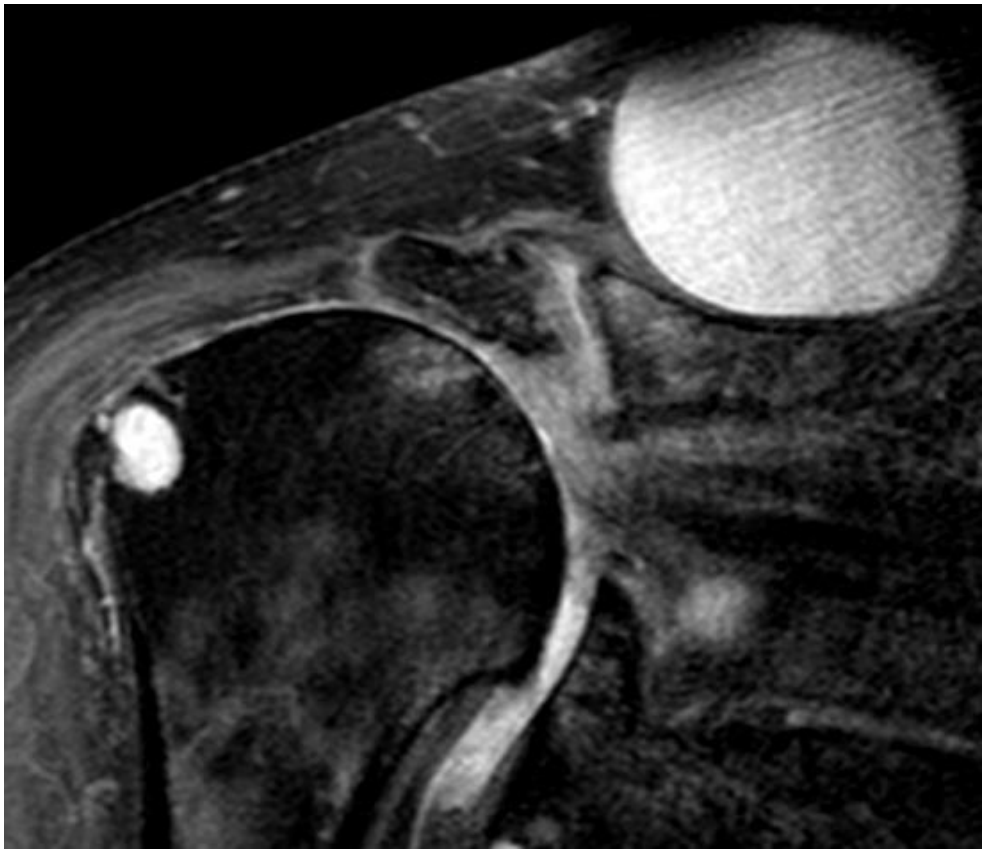
Humeral head wears down AC joint capsule

↓↓

GH joint fluid leaks thro' AC joint

Rotator cuff arthropathy: Geyser phenomenon

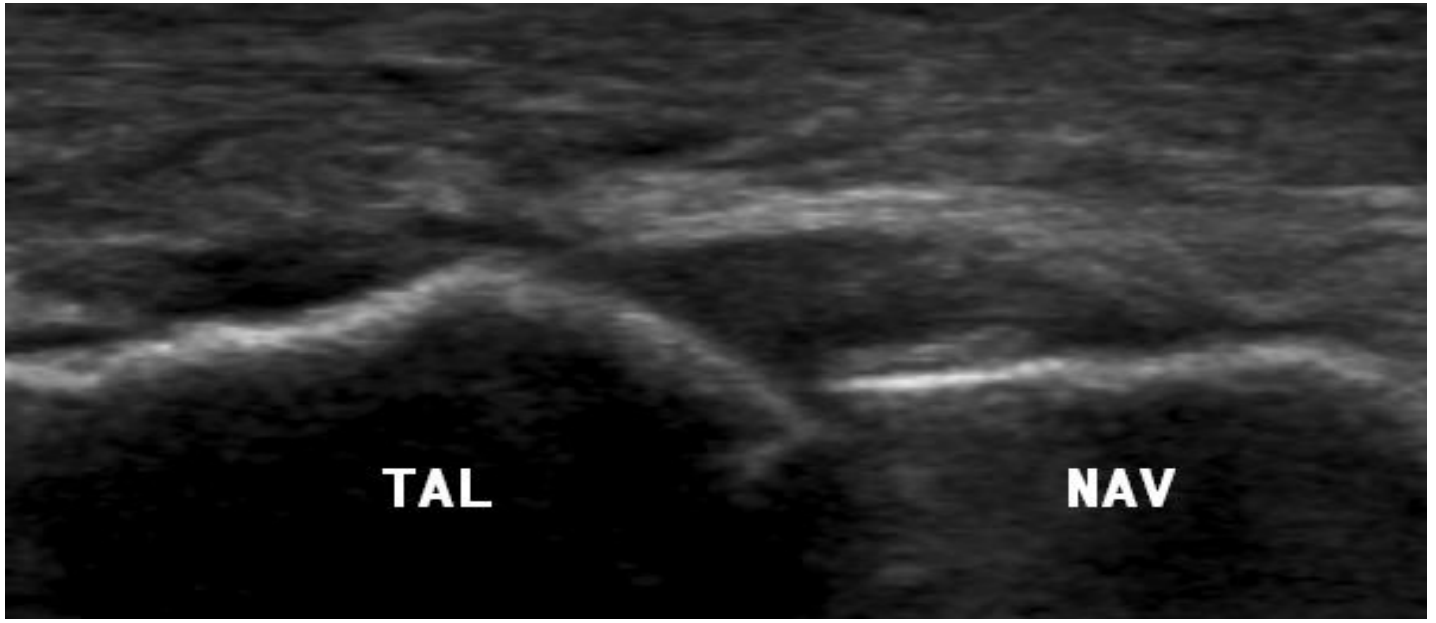


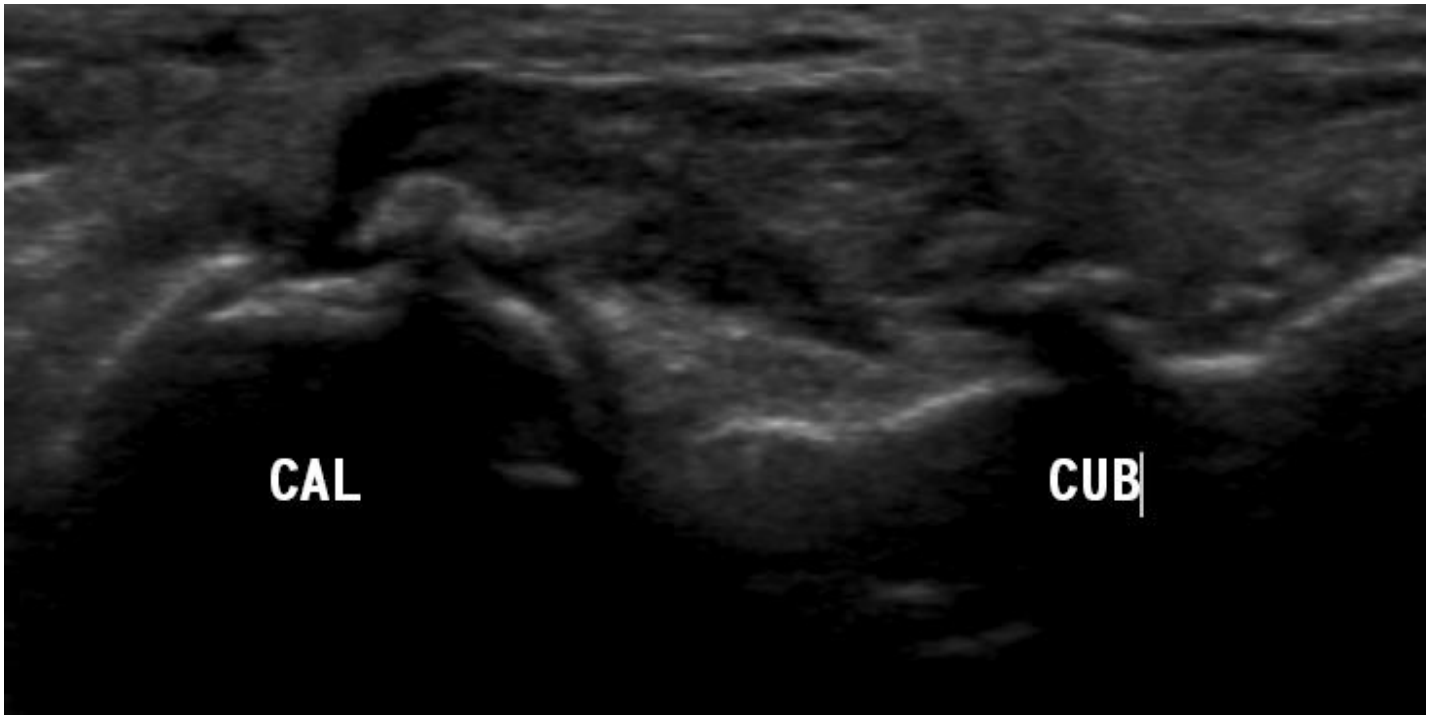


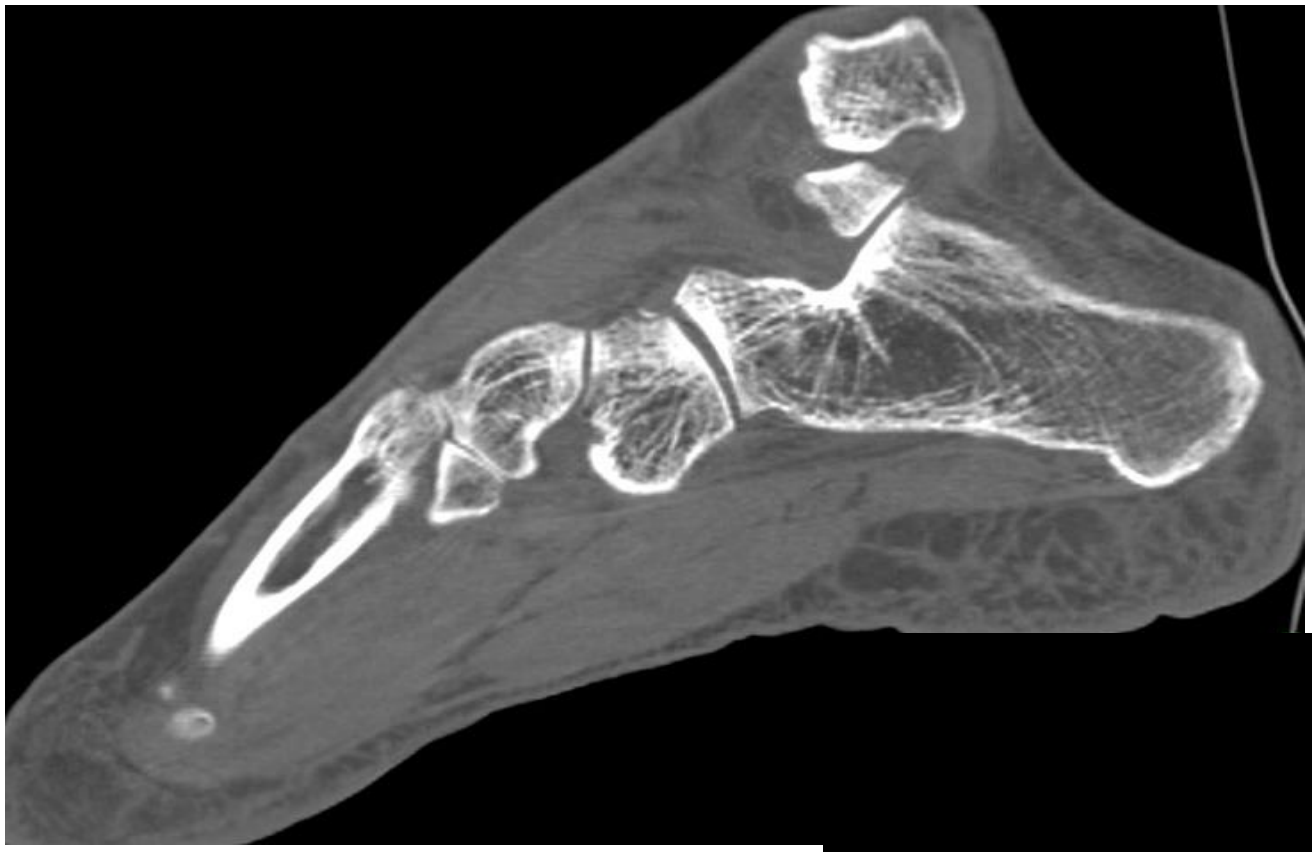
CASE 8

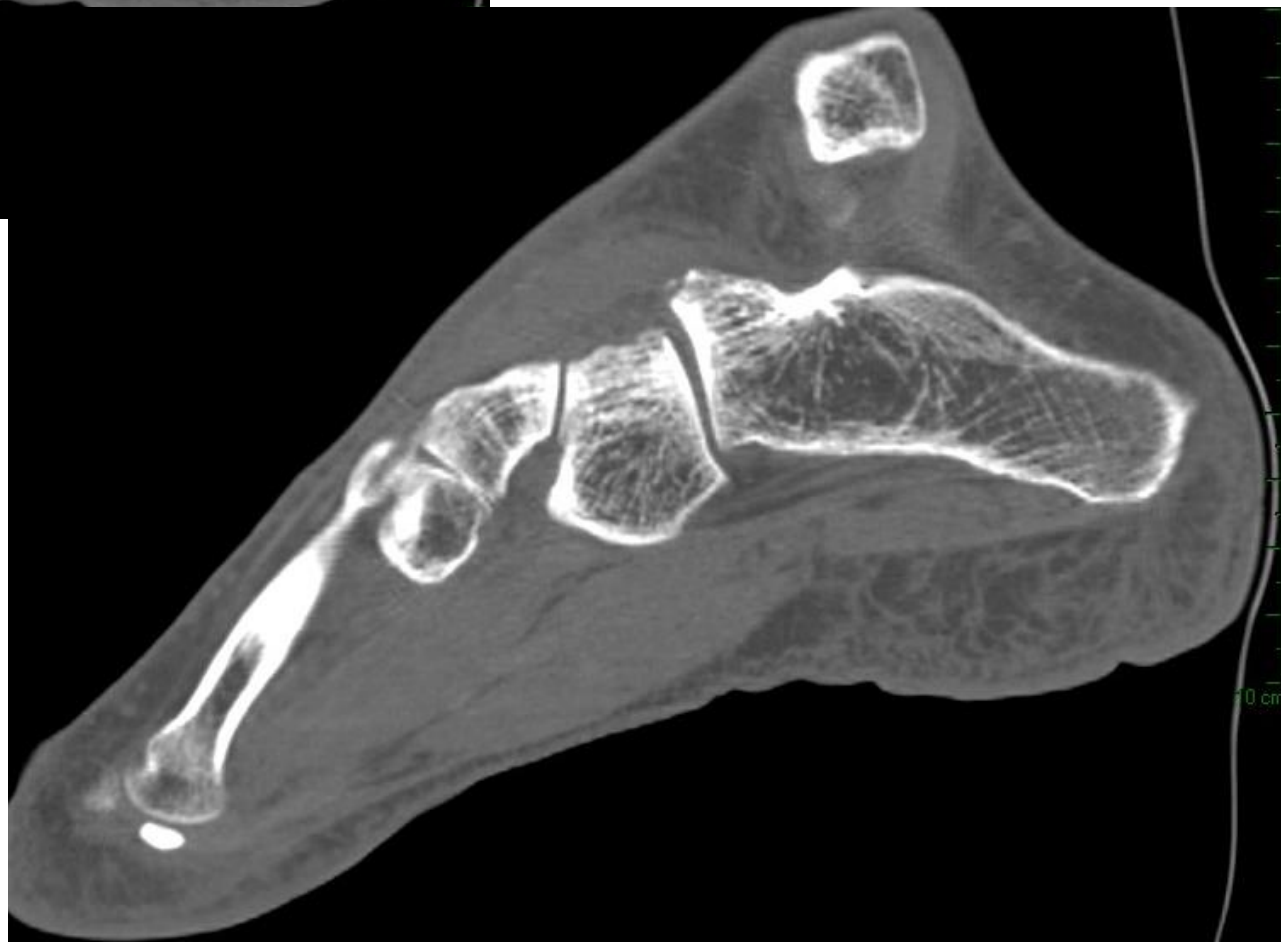
- 54 y.o lady
- C/O left lateral ankle pain.

US

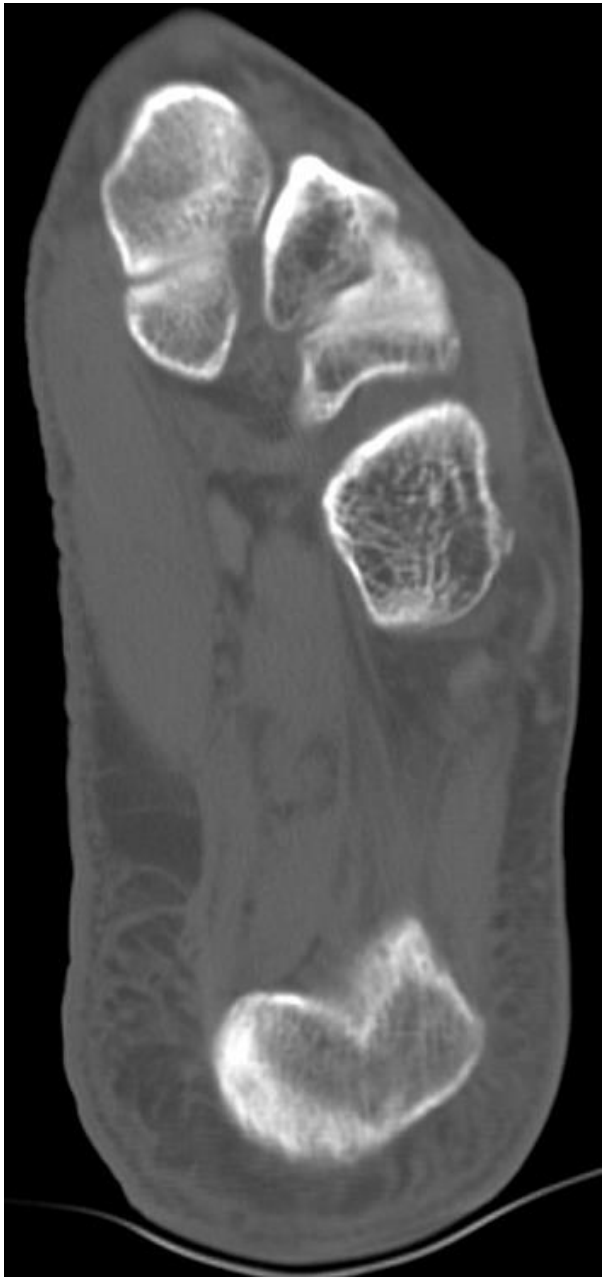


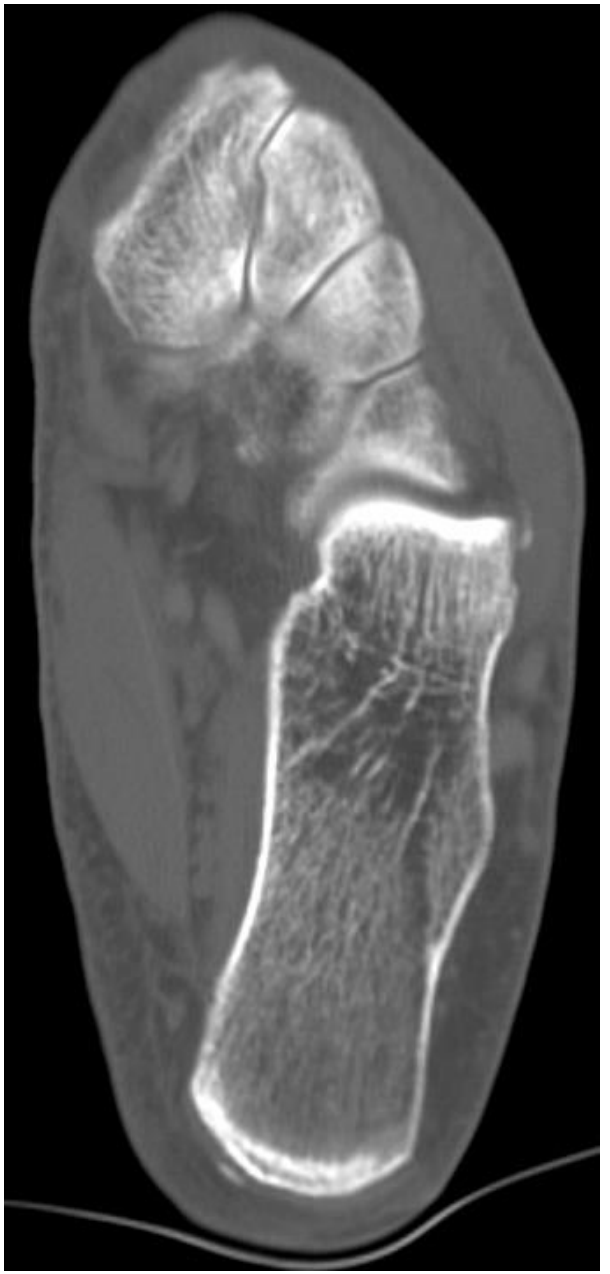




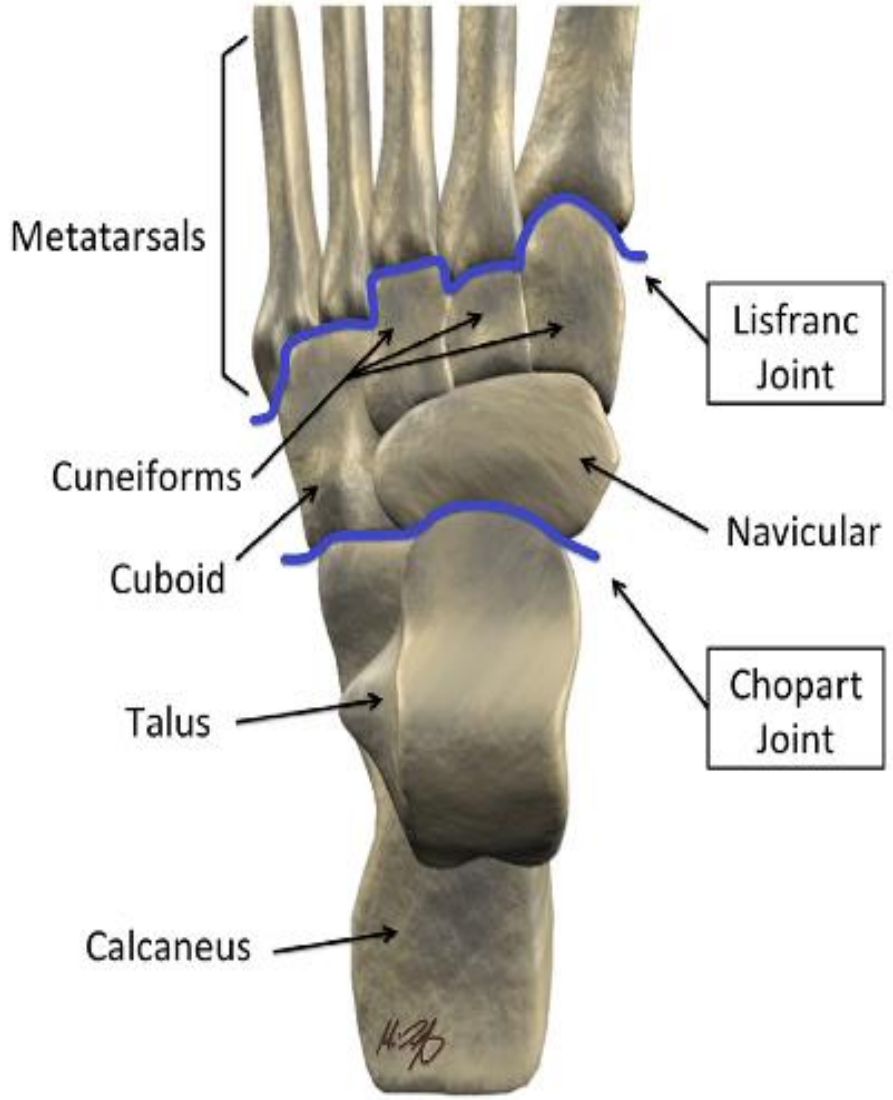


CT



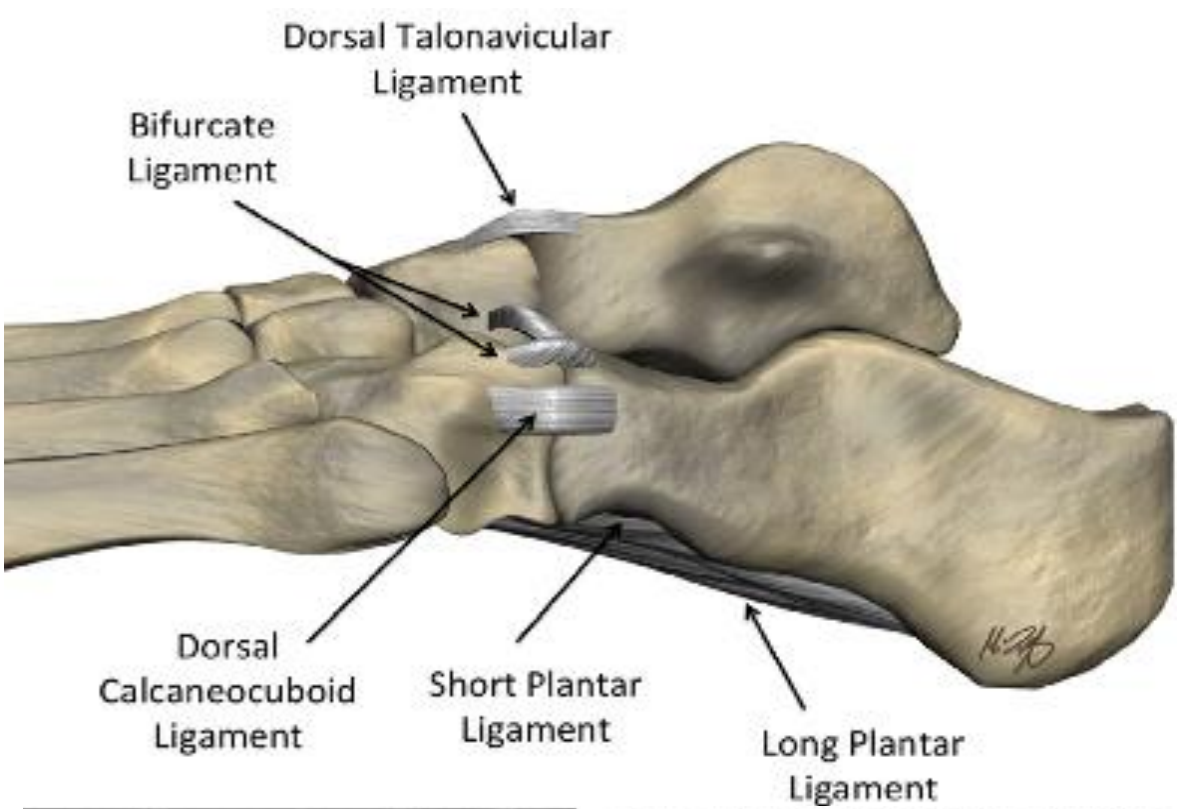


Chopart Joint

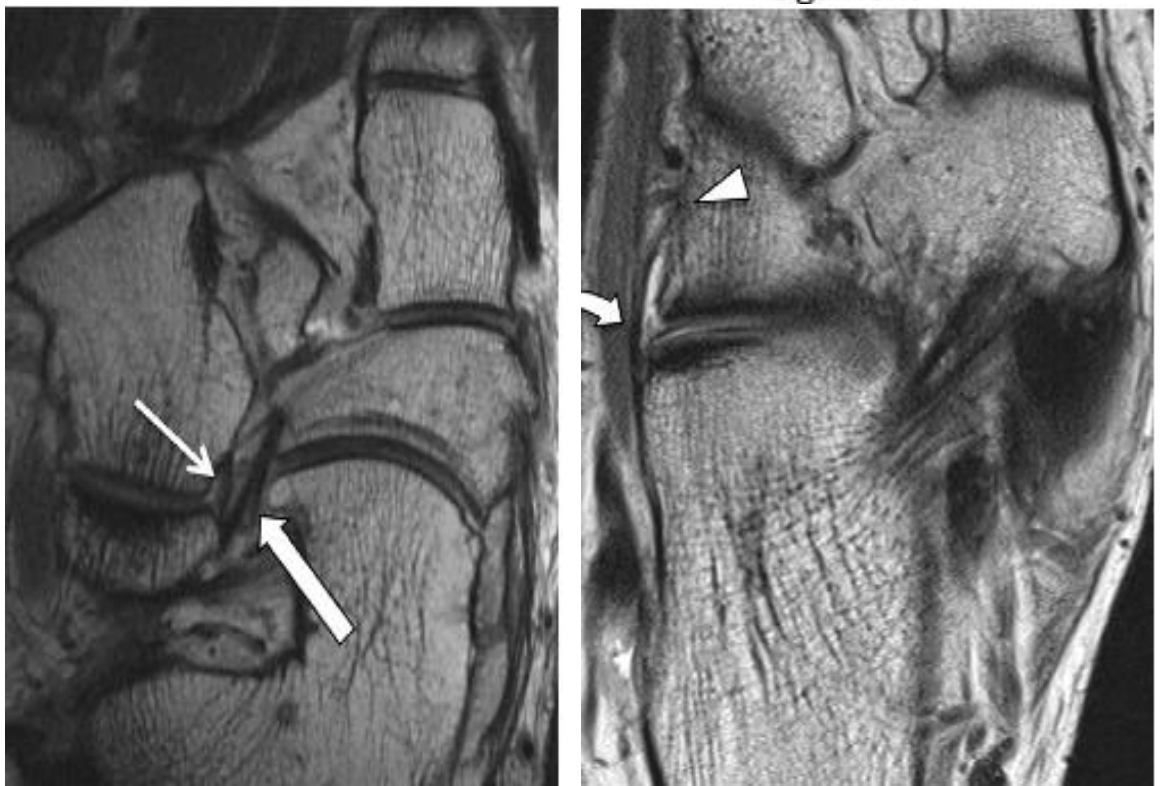


- AKA midtarsal, transverse tarsal joint.
- Calcaneocuboid & talocalcaneonavicular joints.

MR Imaging of Midfoot Including Chopart and Lisfranc Complexes. Rosenberg et al.



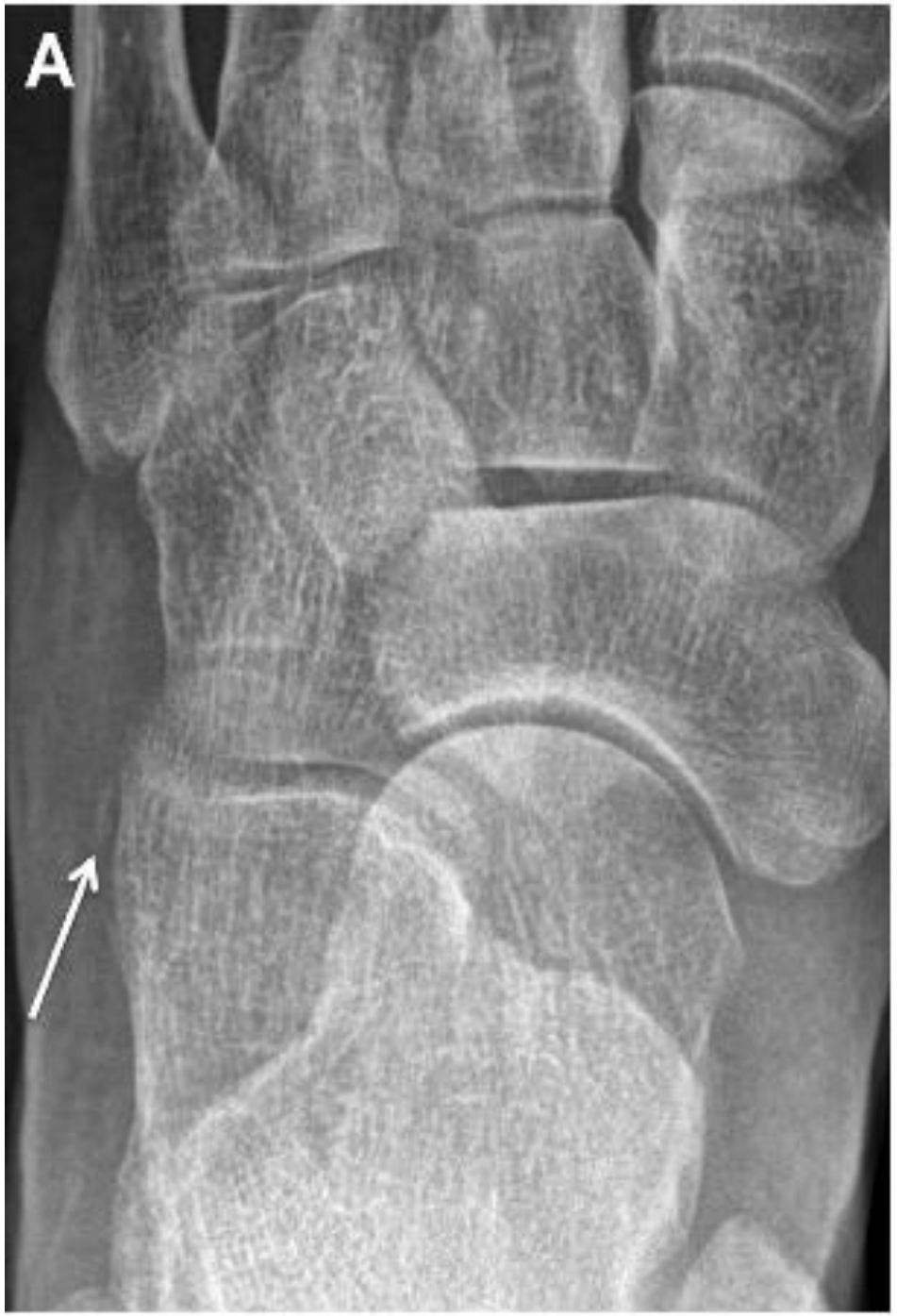
Chopart Joint is stabilized by:
- spring ligament
- bifurcate lig
- short & long plantar lig
- dorsal calcaneocuboid lig
- dorsal talonavicular lig



MR Imaging of Midfoot Including Chopart and Lisfranc Complexes. Rosenberg et al.

Chopart Joint injuries

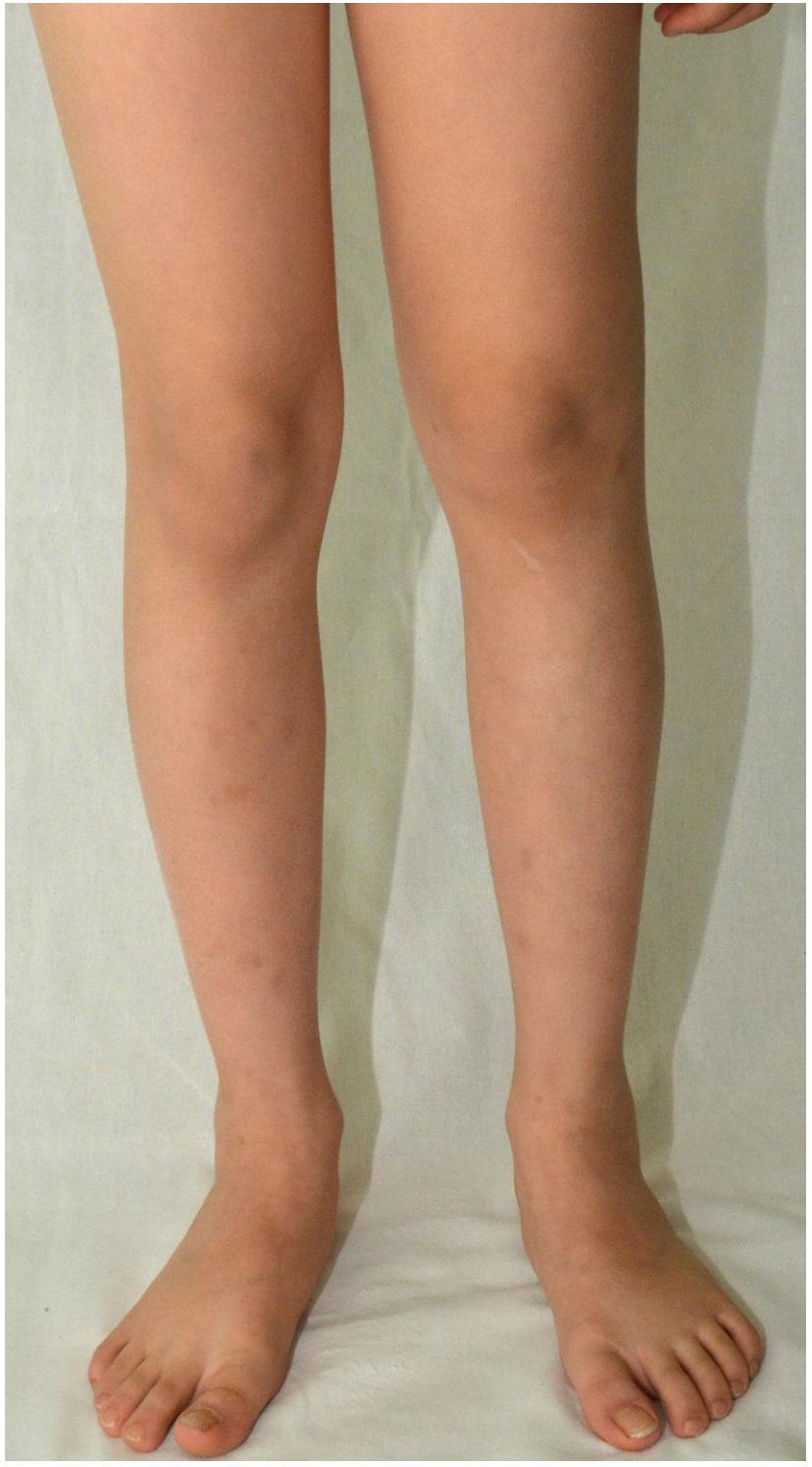
- Pure ligamentous injury → small avulsion fractures → rare fracture dislocation
- Can be missed upto 40% of cases.
- Midfoot avulsion fracture:
  - Low-energy trauma, more in women dt wearing high heel.
  - Ankle inversion injury
  - 20% with LCL sprain

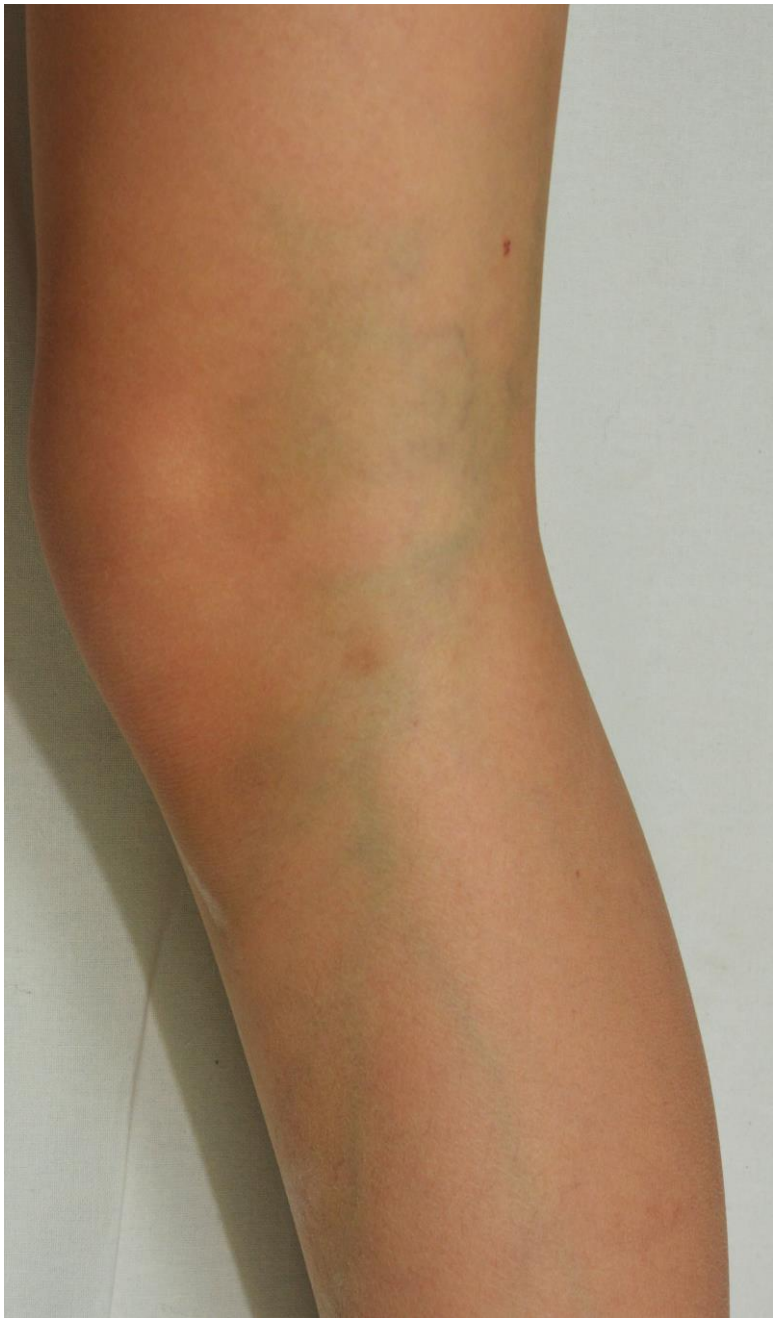


MR Imaging of Midfoot Including Chopart and Lisfranc Complexes. Rosenberg et al.

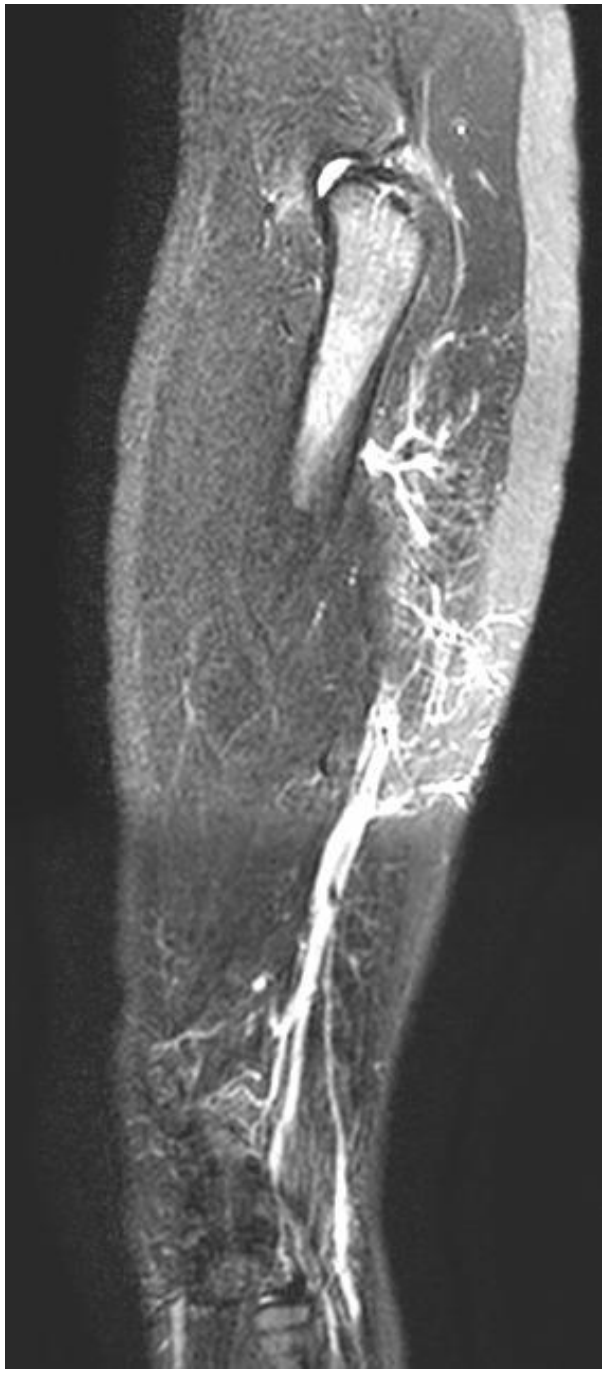
Case 9

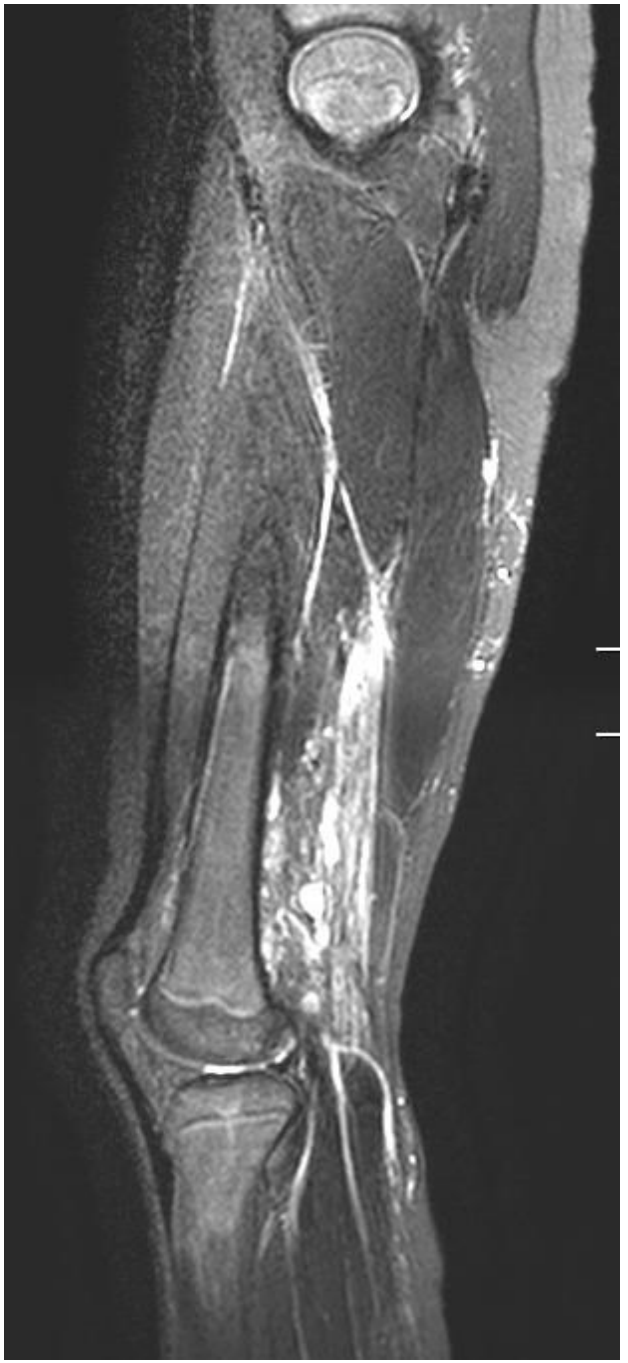
- 8 y.o girl
- Presented with left thigh swelling for 1-2 years.
  - Progressive enlarging
- No neurological sign.

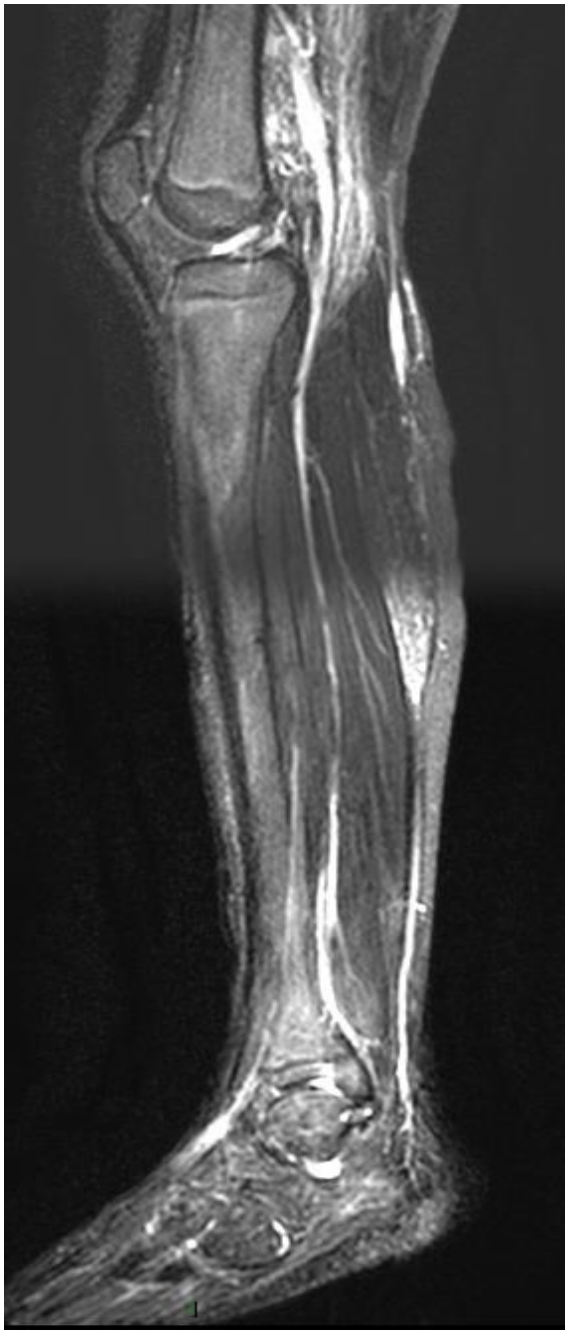




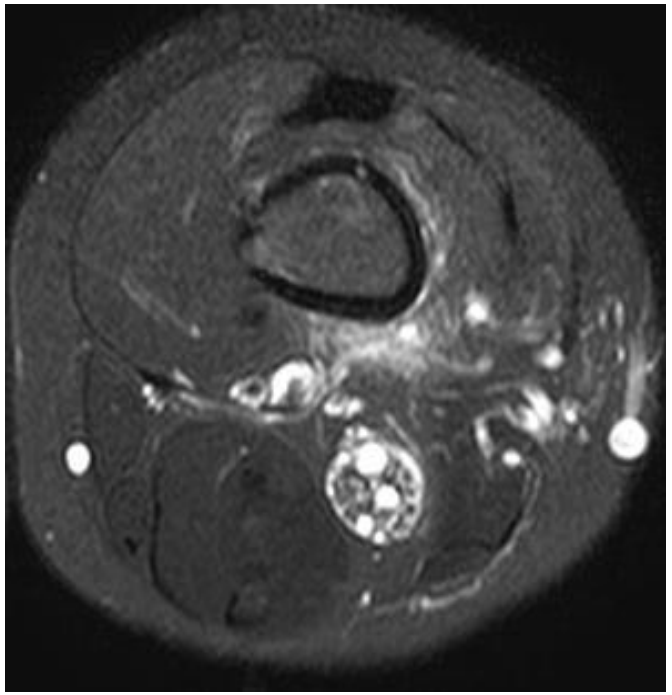
MRI

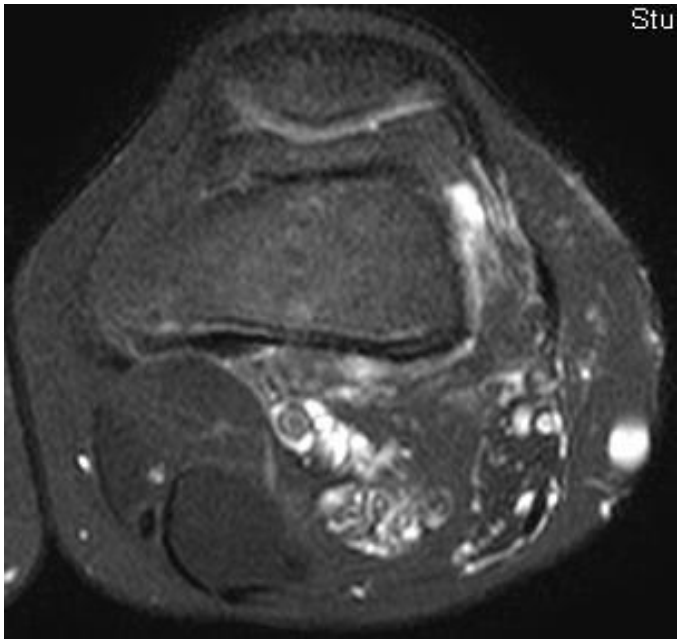


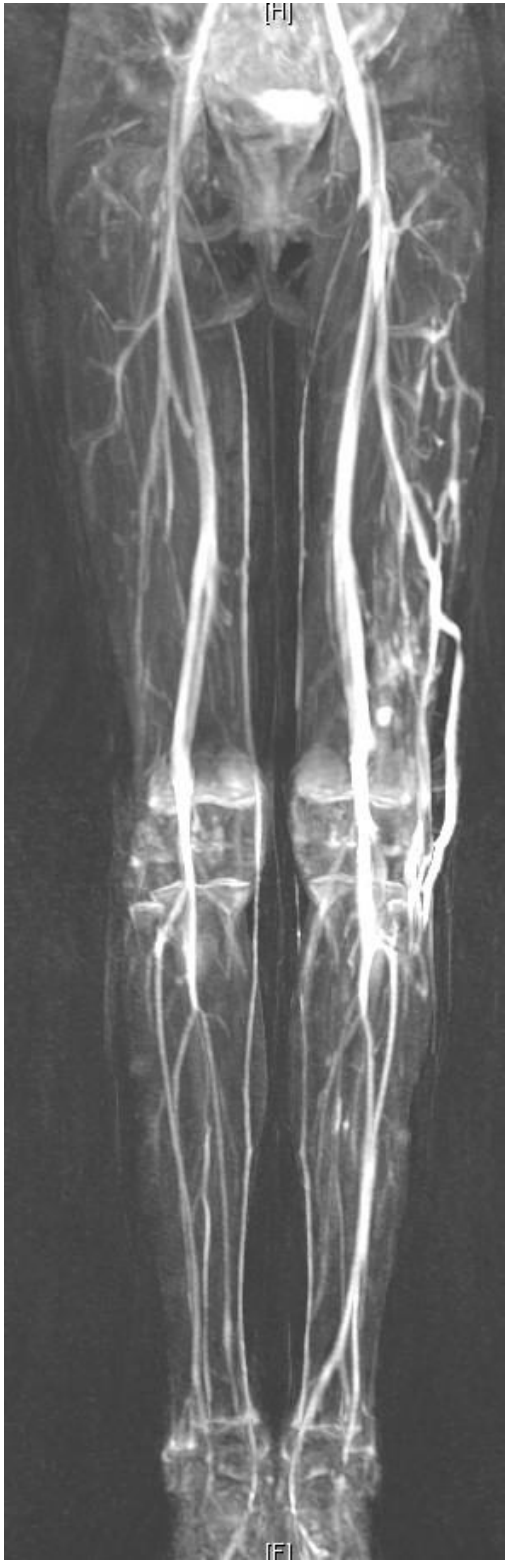




Extensive venous malformation from mid thigh to mid leg, involving subcutaneous fat and muscle



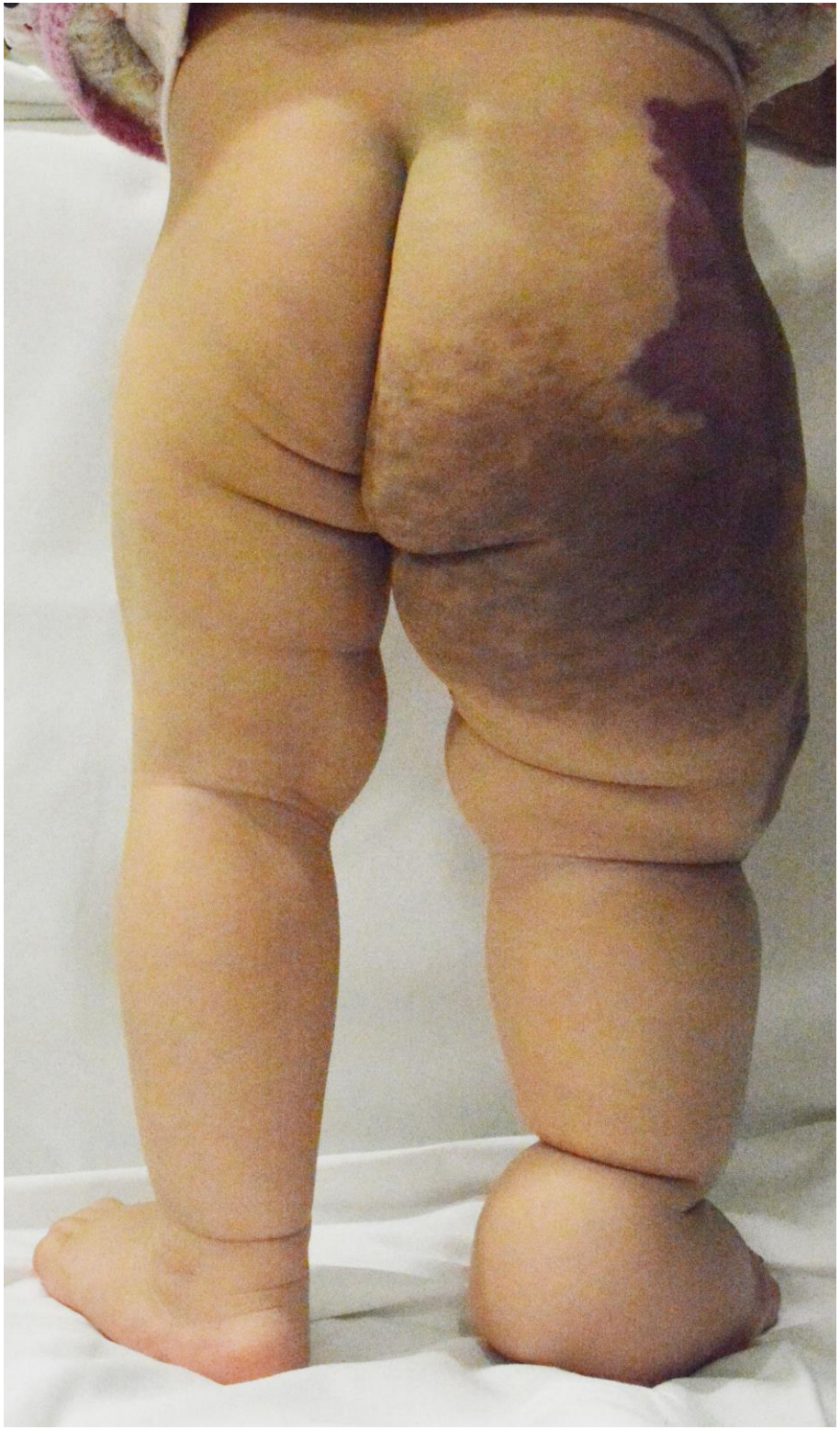


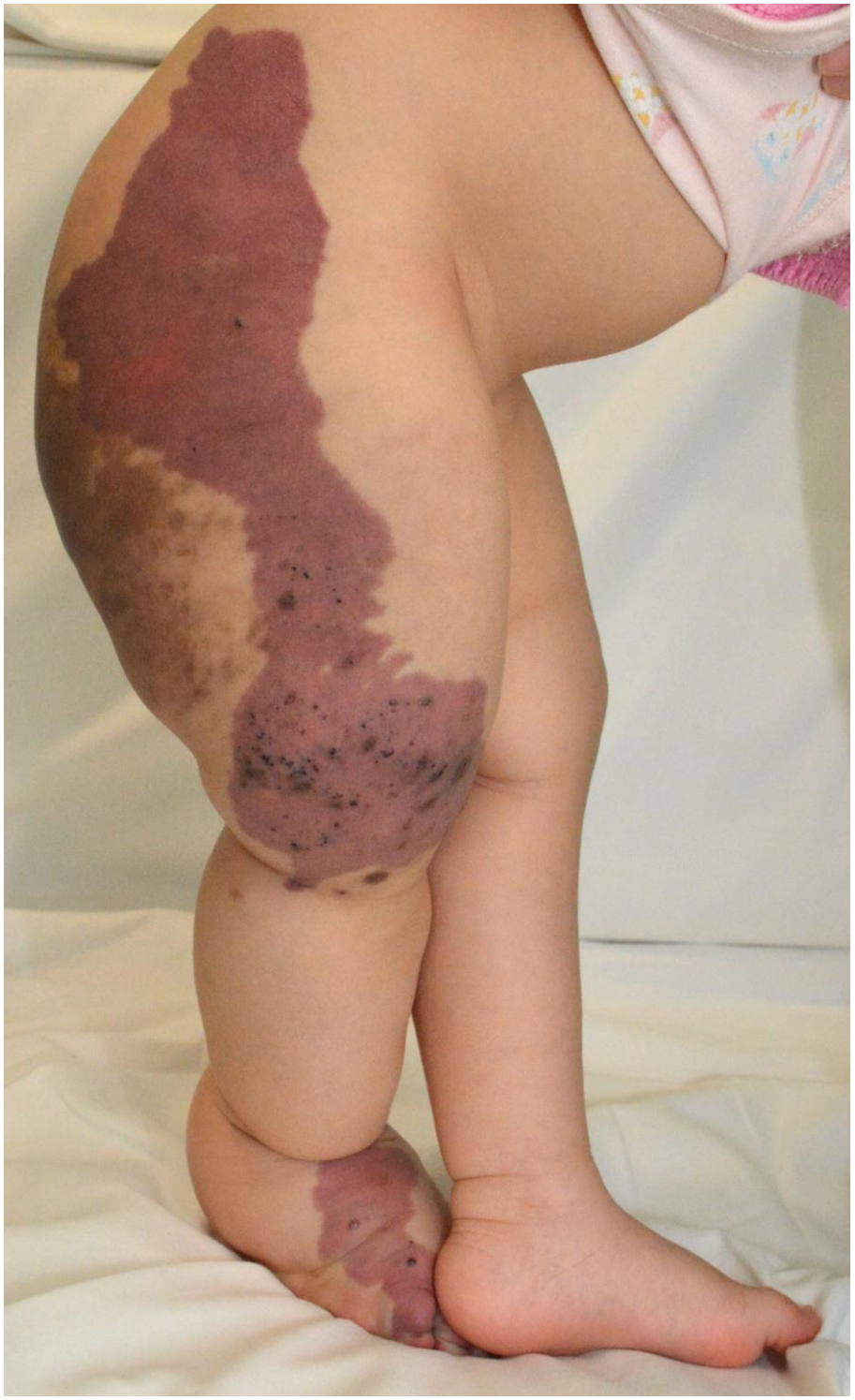


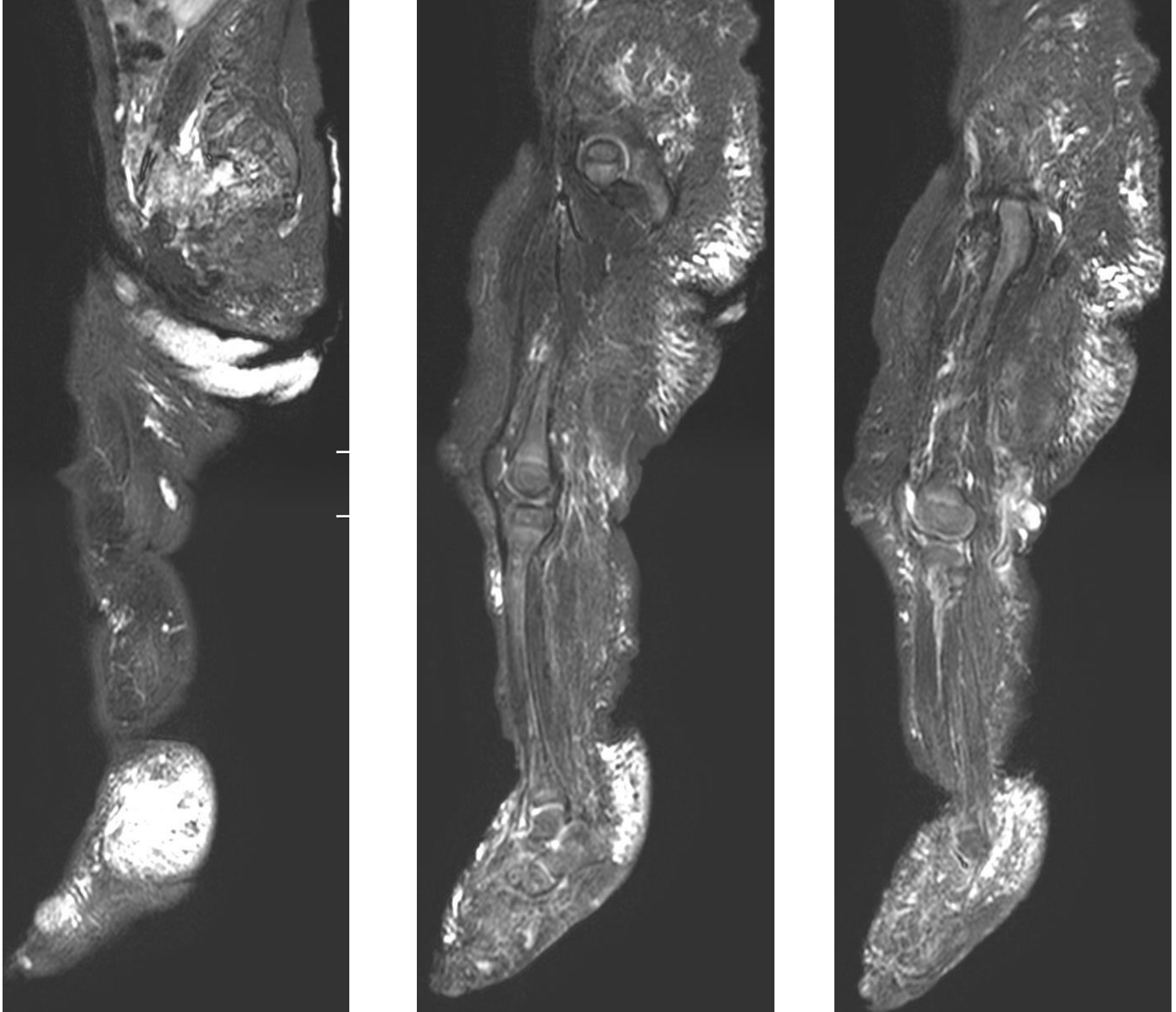
MRV shows
- lateral vein at lateral upper leg, knee and lower thigh

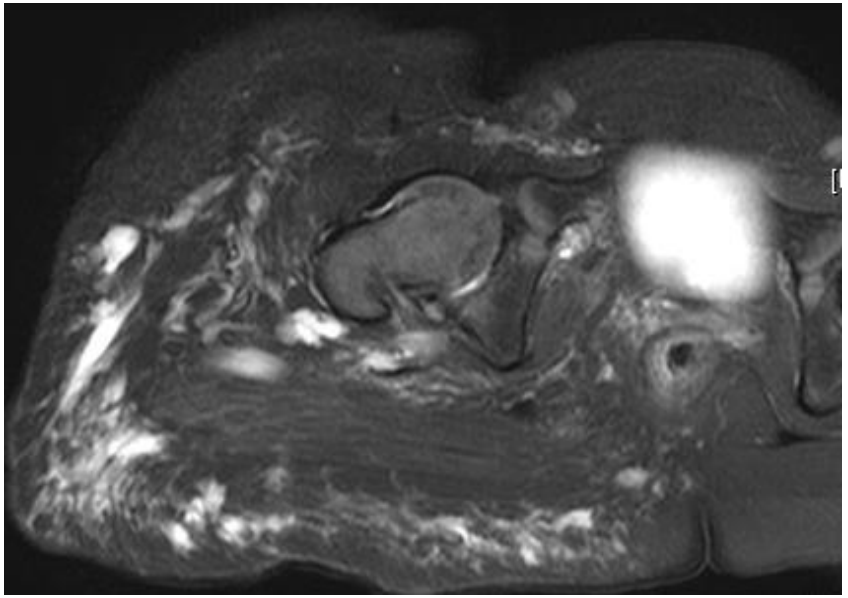
Case 10

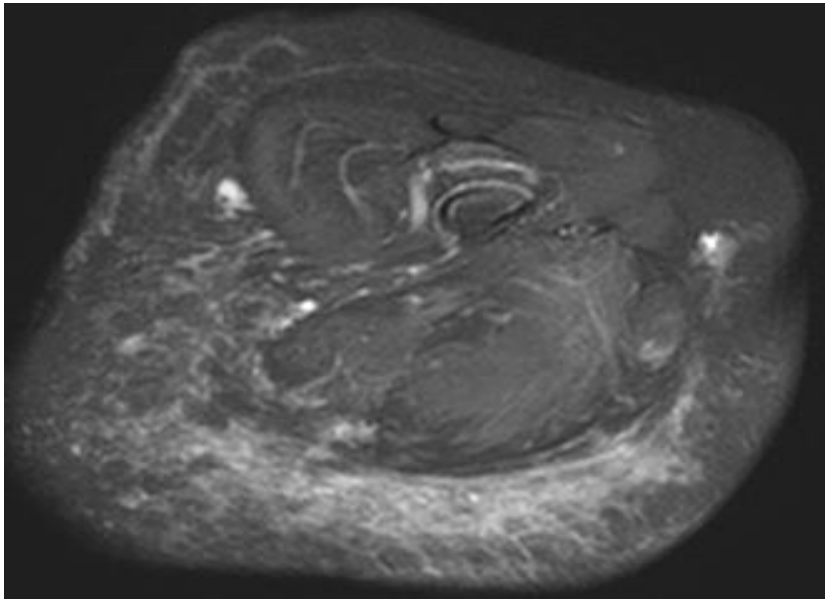
- 2 year old girl
- Vascular birth mark & right thigh swelling since birth.
- Progressive enlargement of right lower limb since birth.

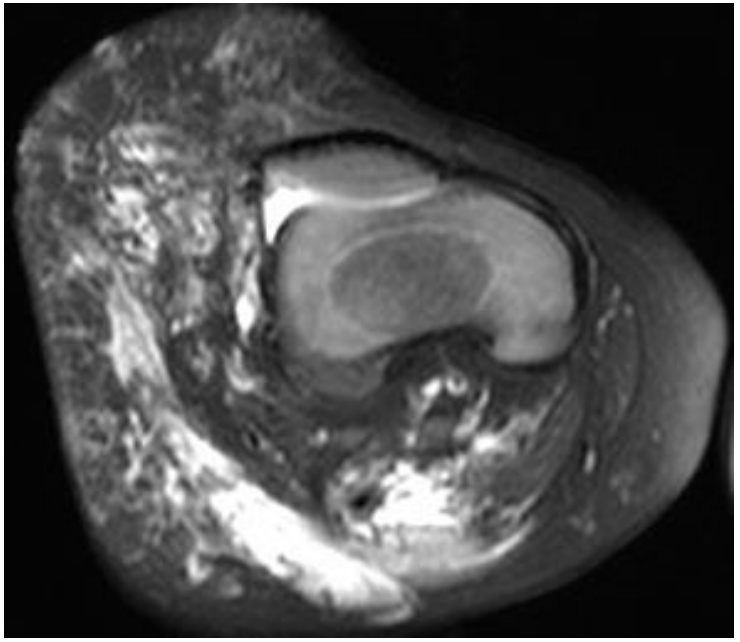


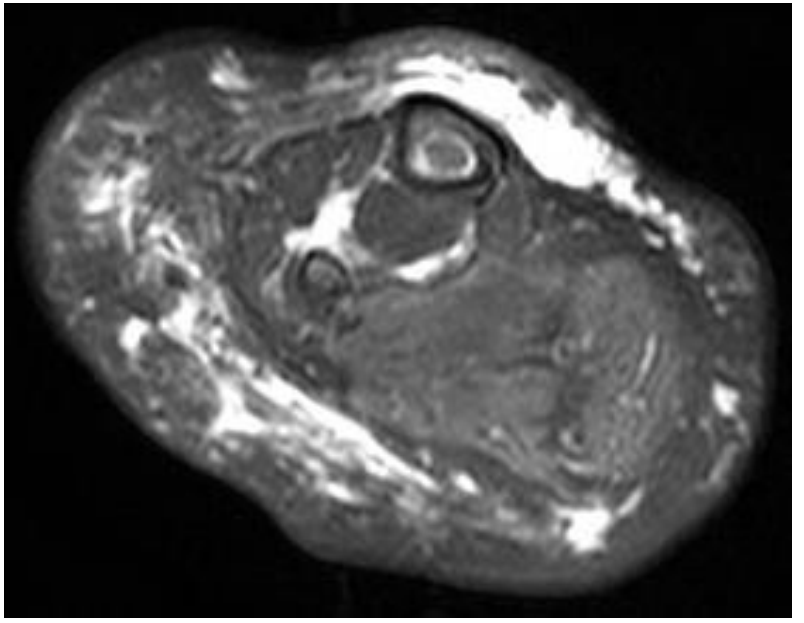




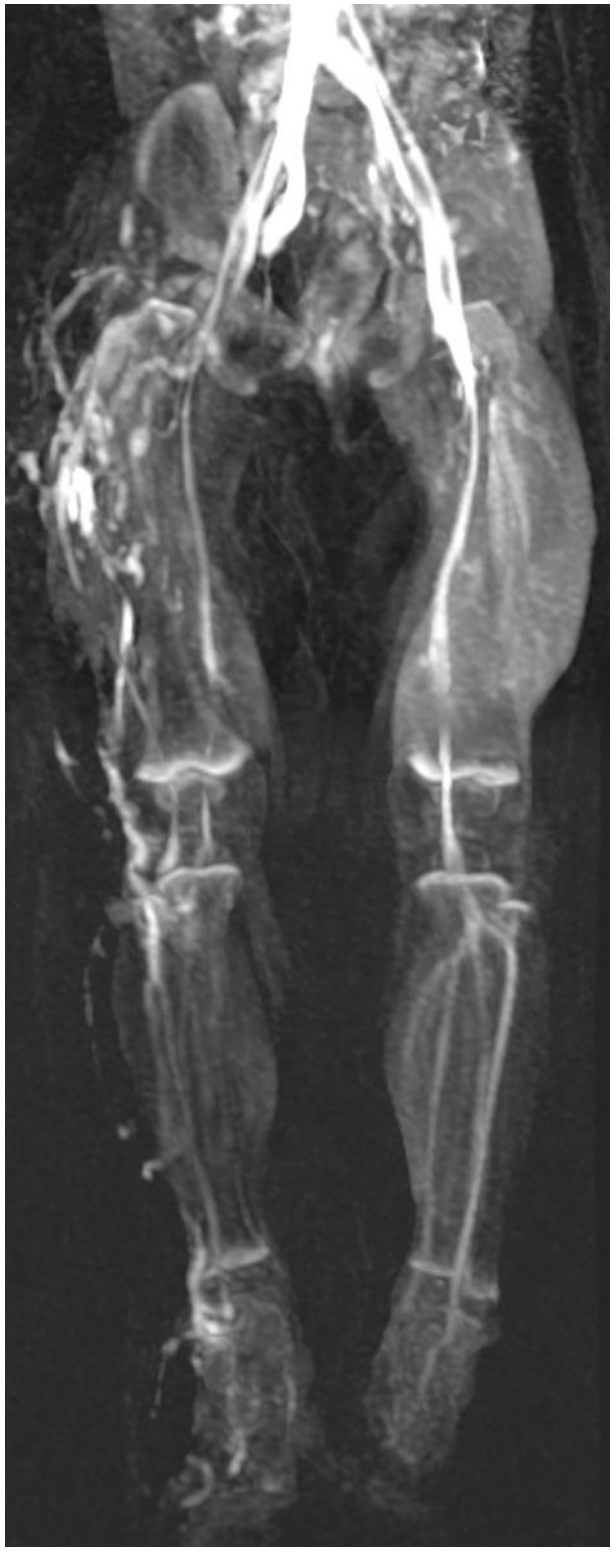


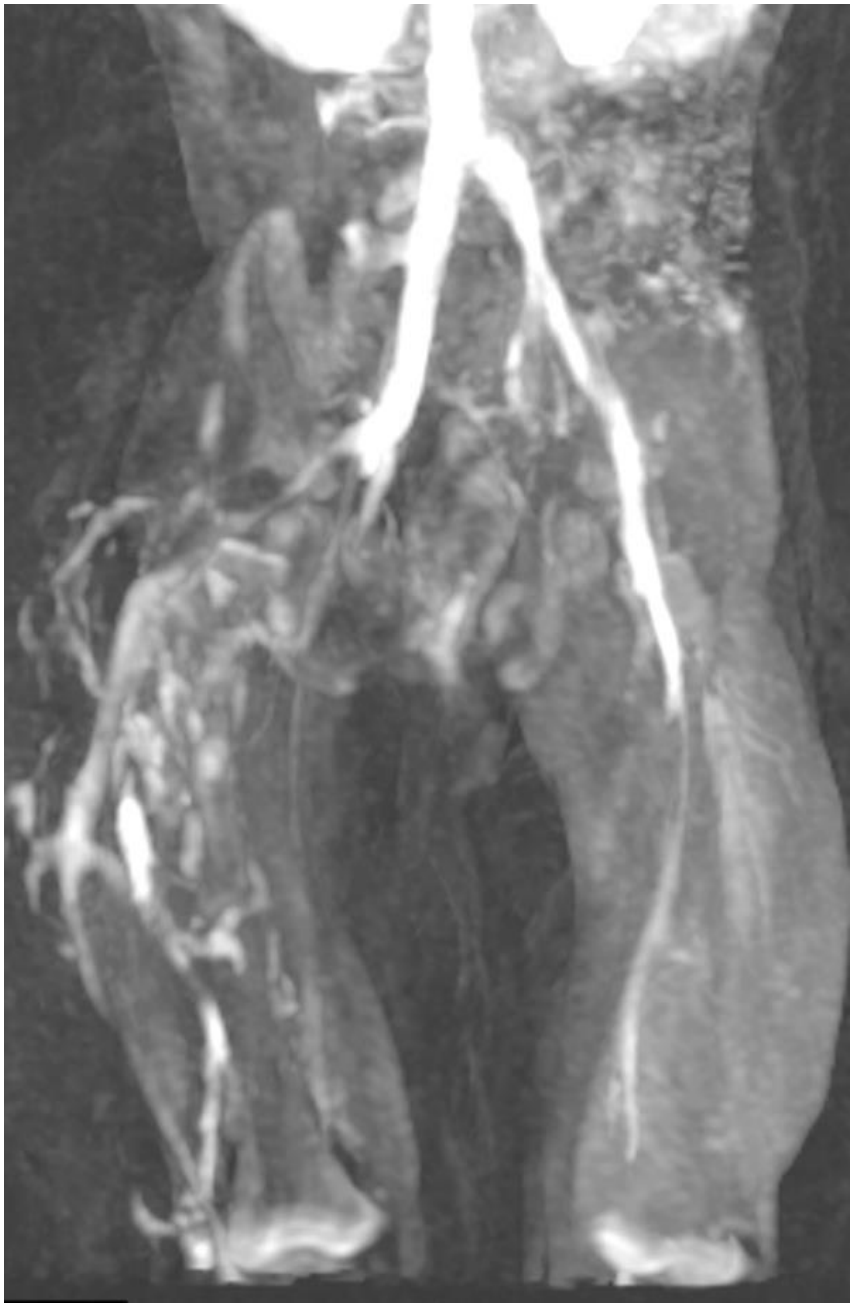






Severe venolymphatic vascular malformation of right lower limb, involving subcutaneous, intermuscular and intramuscular.

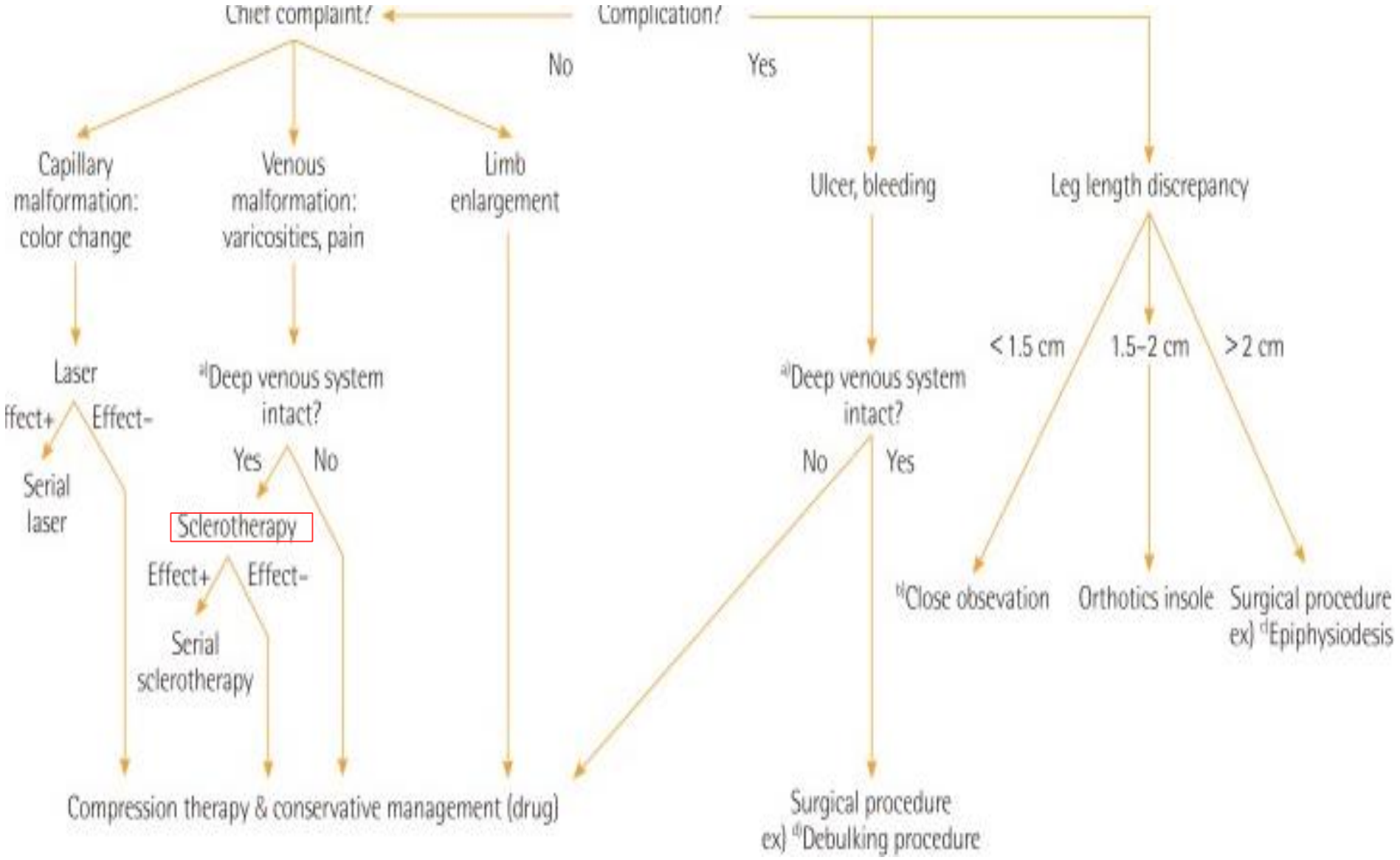




Dilated subcutaneous vein. Presence of lateral and sciatic vein draining to internal iliac vein.

Klippel Trenaunay Syndrome

- Congenital malformation syndrome
- Unknown cause
- Characterized by:
  - vascular malformation
    - capillary malformation/port-wine stain;
    - venous malformation/varicosity (persistent embryonic vein: lateral marginal vein-most common)
  - Soft tissue or bony hypertrophy of extremities.



Hyung et al. Clinical Experience of the Klippel-Trenaunay Syndrome

THANK YOU!