Chondrosarcomas

Surgical Treatment

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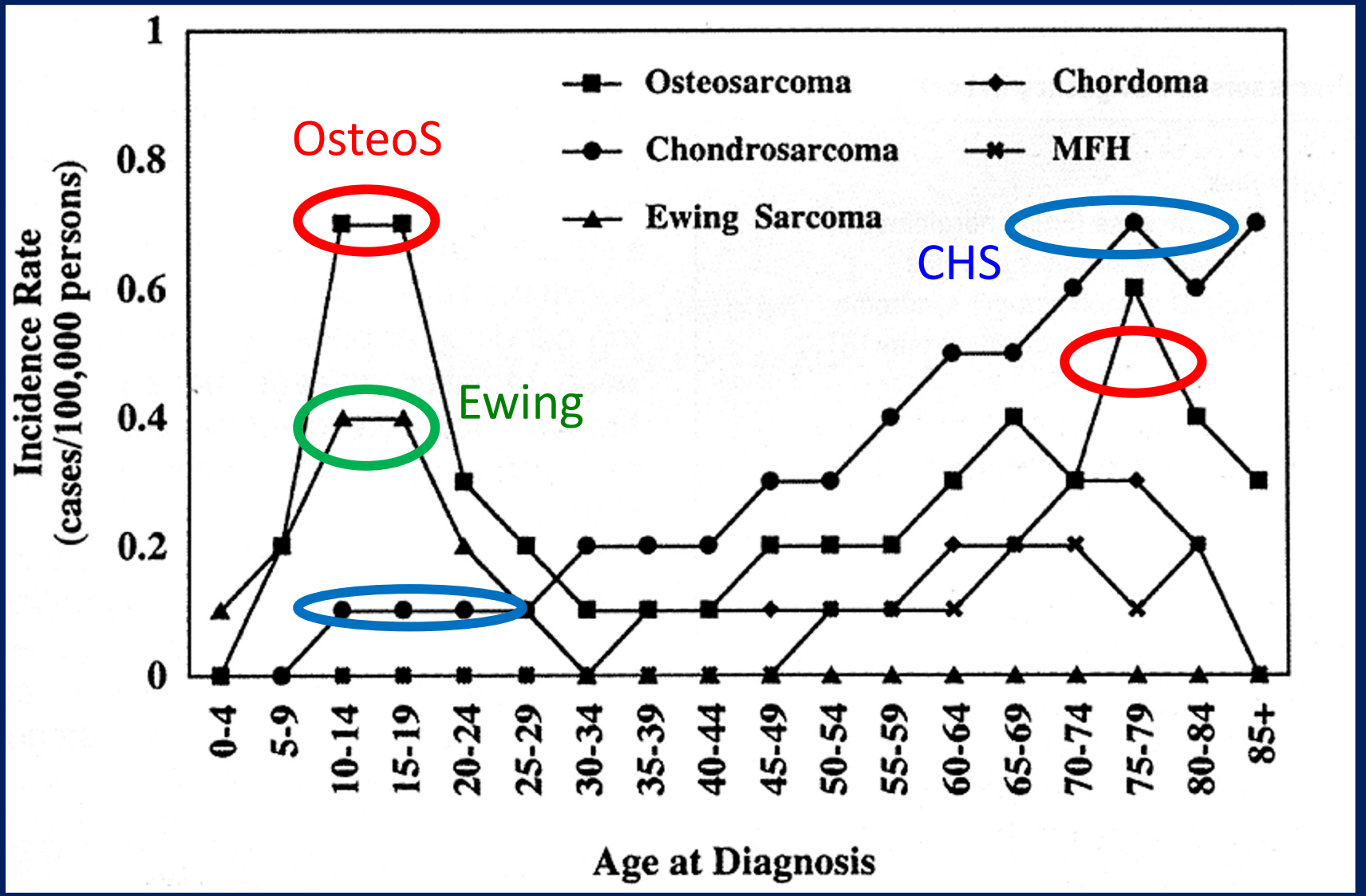
Epidemiology



Imaging- Radiology

- Calfications - Cartilage matrix
- Size
- Scalloping
- Cortex expansion/thinning
- Epiphyseal extension
- Buttresing
- Loss of calcifications
- Periosteal reaction
- Multilobular
- Oedema
- **Soft tissue extension**
- **Small bones excluded**

Mirra JM, 1989. Miwa M. Cancers 2021

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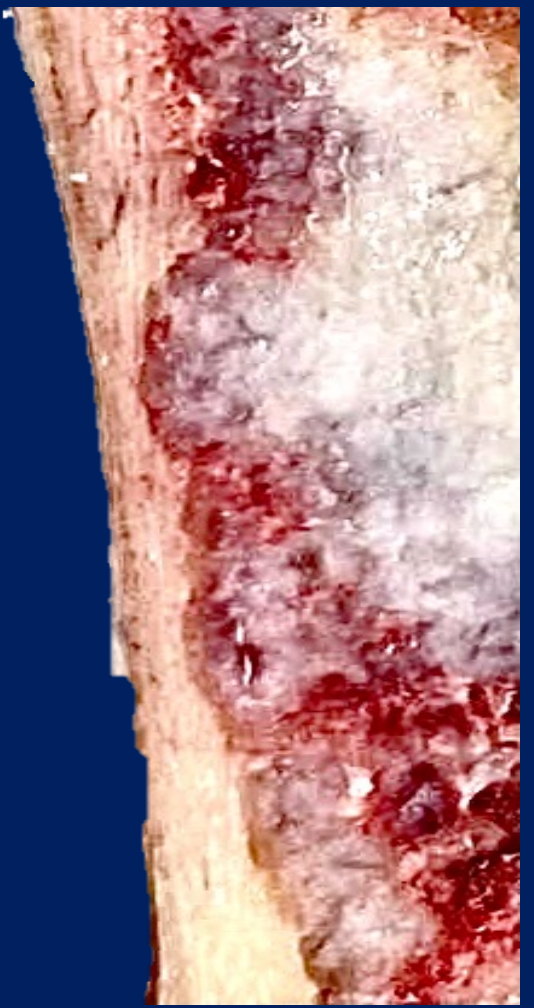


Archive Daglis Ph

Mirra JM, 1989. Miwa M. Cancers 2021

Clinical presentation

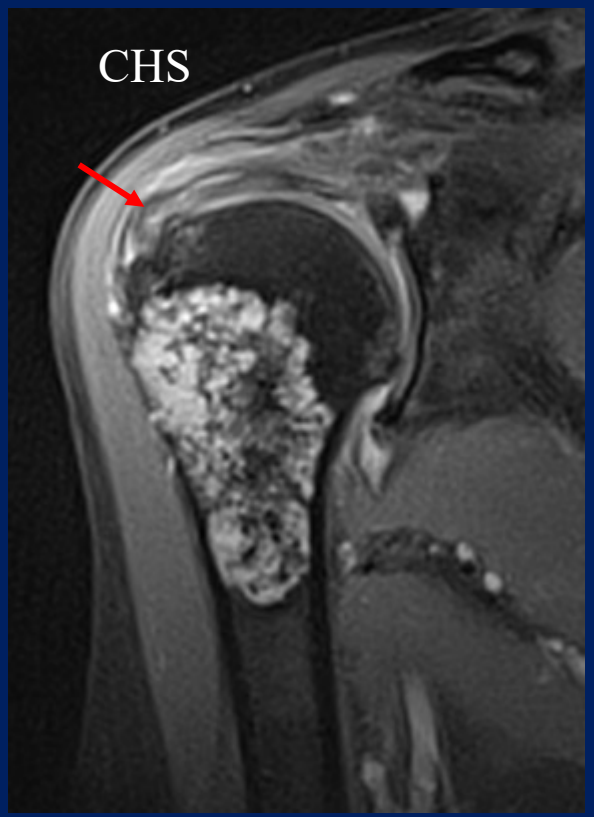
- Progressive pain
- Night pain 80%
- Mass
- Pathologic fracture

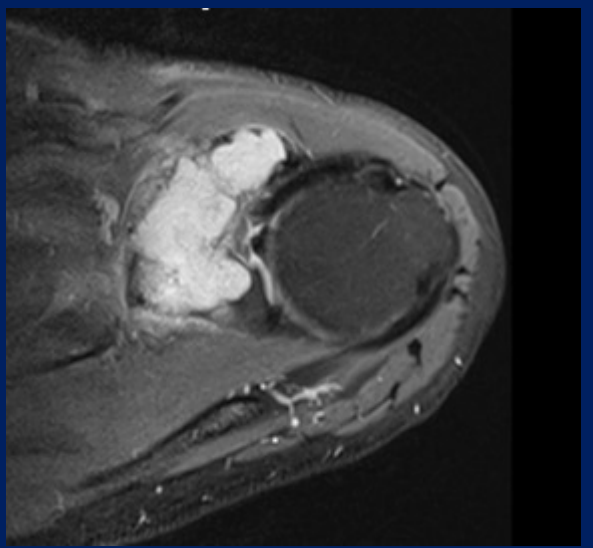
  (10% ATC – 40% HG CHS)

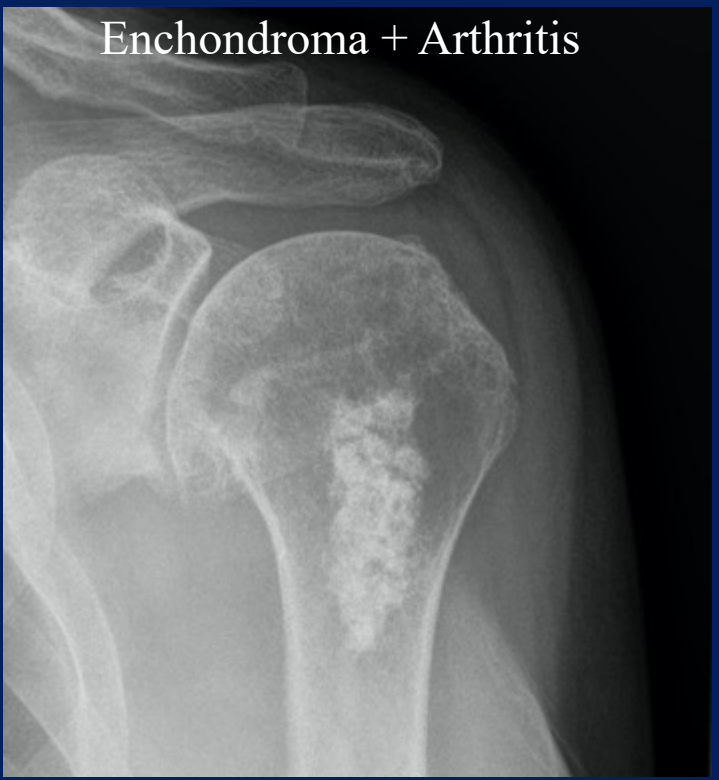
Shoulder - Proximal Humerus

Frequently present as Impigment syndrome / Rotattor cuff disease / Frozen Shoulder

- Night pain - Distal Radiation
- Reduced ROM







Acetabulum - Hip

- Inguinal – Hip- Trochanderic pain
- Long standing - Deep pain
- Confused with arthritic pain or hernias

Cartilage lesions of the Acetabulum and Great trochander are always suspicious for malignancy

Normand AN, CORR 2007, Pring ME JBJS Am 2001, Dijkstra S JBJS Am 2018

Treatment

1. Surgery is the mainstay of treatment
2. Chemotherapy – Radiation Tx resistant
3. Imaging is very important for DECISION MAKING and Surgical planning

Imaging and Biopsy

- Mismatch between CNB and Surgical histology
- **15% underestimation of Grading**
- **30% for pelvic lesions**

- MRI accuracy for predicting grade:
  - 92% High grade CHS
  - 93% ATC

Correlation of Histology and Imaging

Reitman PD CORR 2017

Oliveira I, Skel Rad 2020

Saifuddin A, Skel Rad 2021

Deckers C et al JSO 2021

Imaging - Biopsy -Treatment

Cartilaginous tumours identified as low-grade on pre-op imaging can safely be managed as low-grade without pre-op histological diagnosis

- 4% Higher grade CHS
- 5% LR at 5 years

Briggs TW, BJJ 2014

Surgical Treatment

Intralesional – Extended curettage:

- G1 CHS (NO soft tissue extension)
- *Non –agrressive G2 CHS (NO soft tissue extension)*

Wide resection for grades G2-G3

Cho WH Annals Surg Oncol 2011. Cochrane Metanalysis 2019

Intralesional Surgery and Adjuvant treatments

- Extended curettage and PMMA
- Curettage and Cryo-surgery
- Curettage and Phenolization
- Curettage and RF ablation

Omlor GW, WJSO 2018
Deckers C et al JSO 2021
Jutte PC, JBJS Am 2016
Jutte PC, Skel Rad 2019

Intralesional Surgery and Adjuvant treatments

- Extended curettage and PMMA: 2,5% Fractures
- Curettage and Cryo-surgery: 5% Fractures
- Curettage and Phenolization: 10% Fractures
- Curettage and RF ablation: 30% Residual tumor

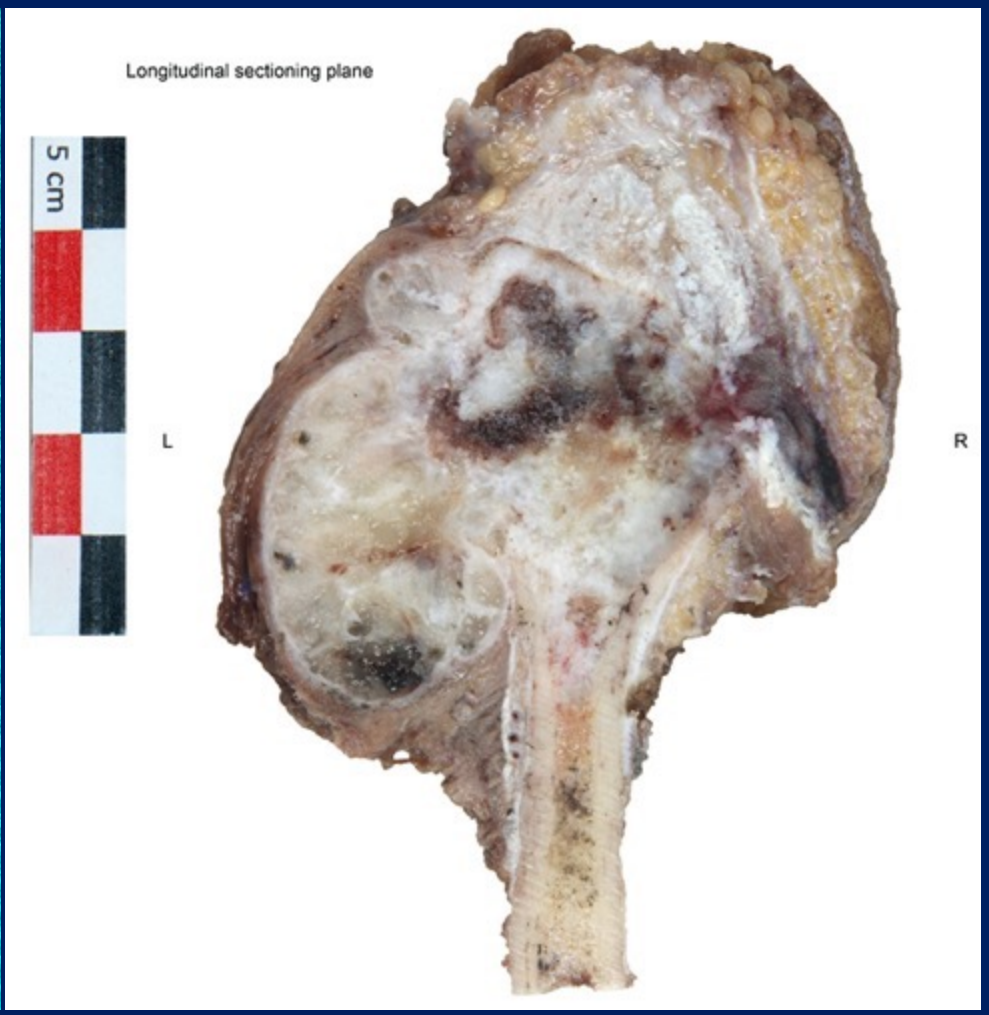
Omlor GW, WJSO 2018
Deckers C et al JSO 2021
Jutte PC, JBJS Am 2016
Jutte PC, Skel Rad 2019

CHS and Pathologic Fracture

- Fracture on a cartilage lesion means CHS
- Limb sparing usually feasible
- Higher Local Recurrence rate (30%)
- Reduced survival in ATC/G1 CHS

CHS G1- Epiphyseal location – Curettage & PMMA

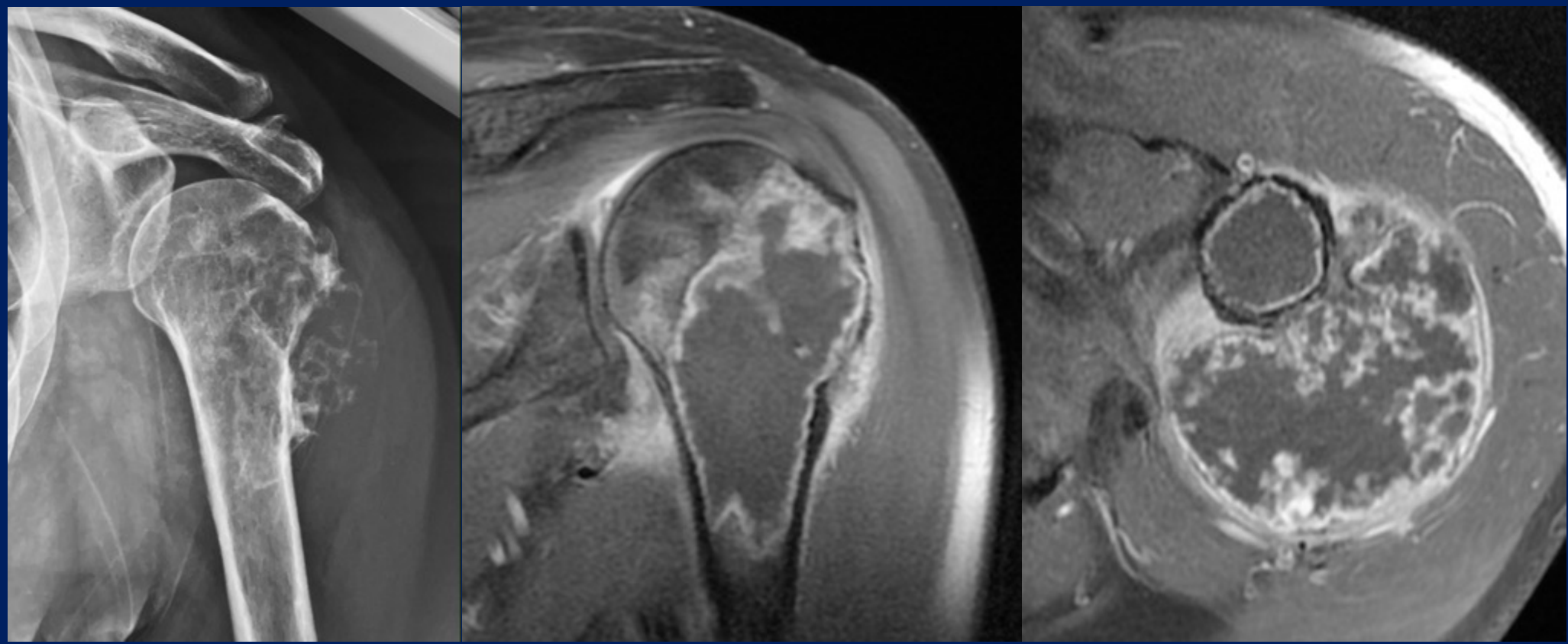
45 y M. CHS G2 Fibula Head



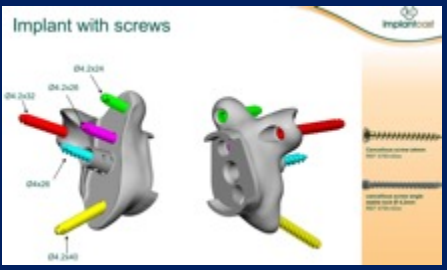
Archive Agrogiannis G.

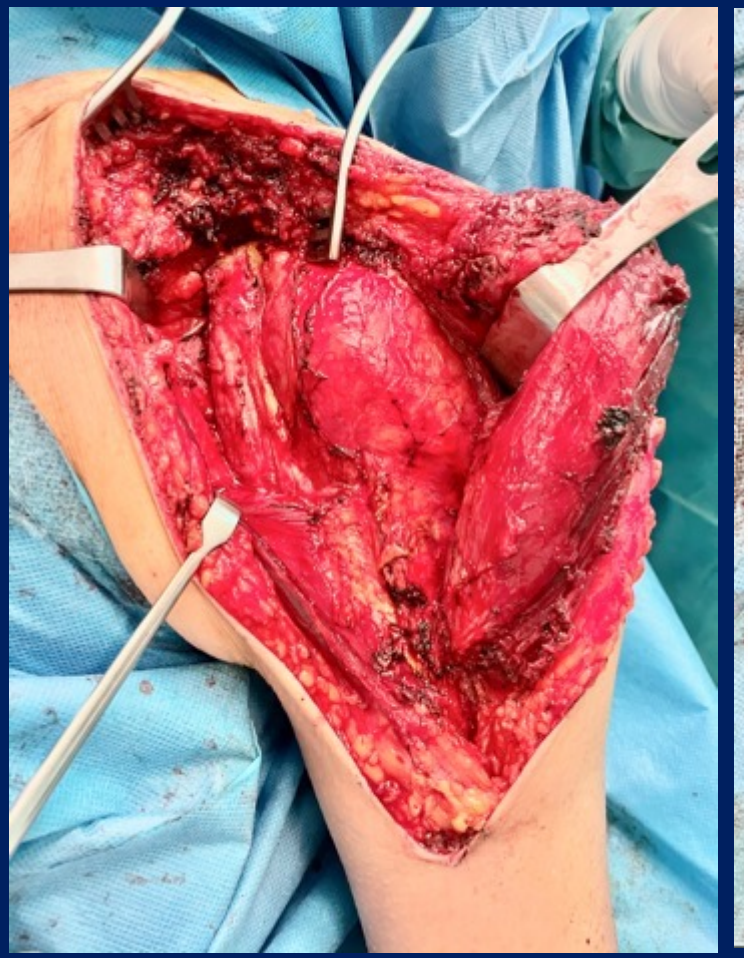
35 y M. Progressive Night Pain 6m

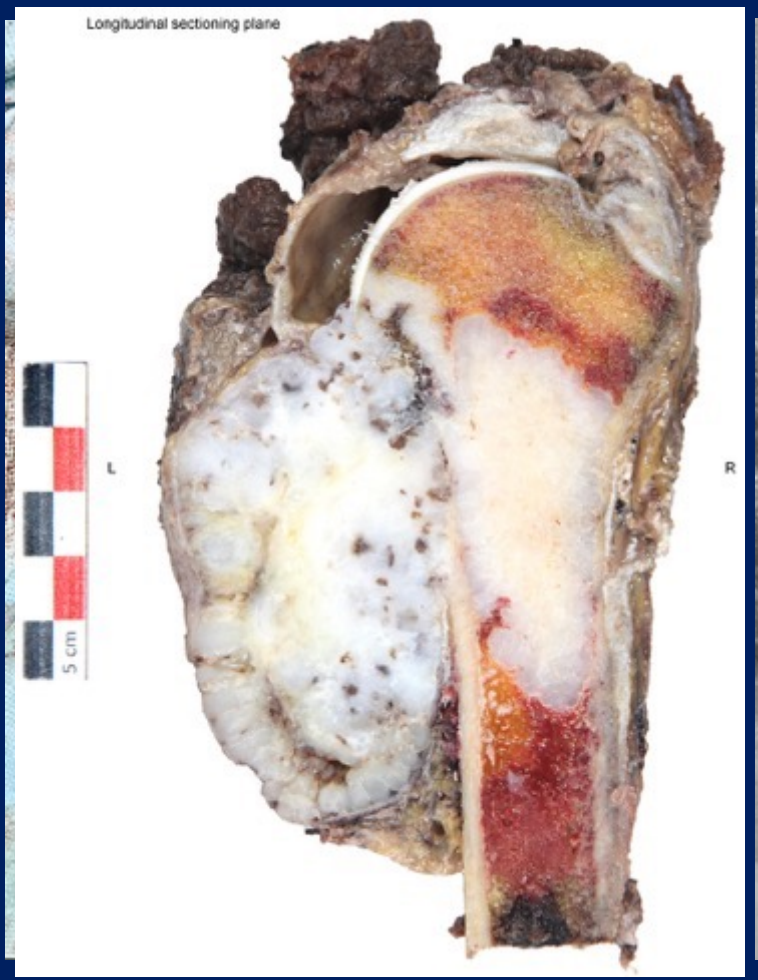
CHS G3. Soft tissue extension. Myxoid component



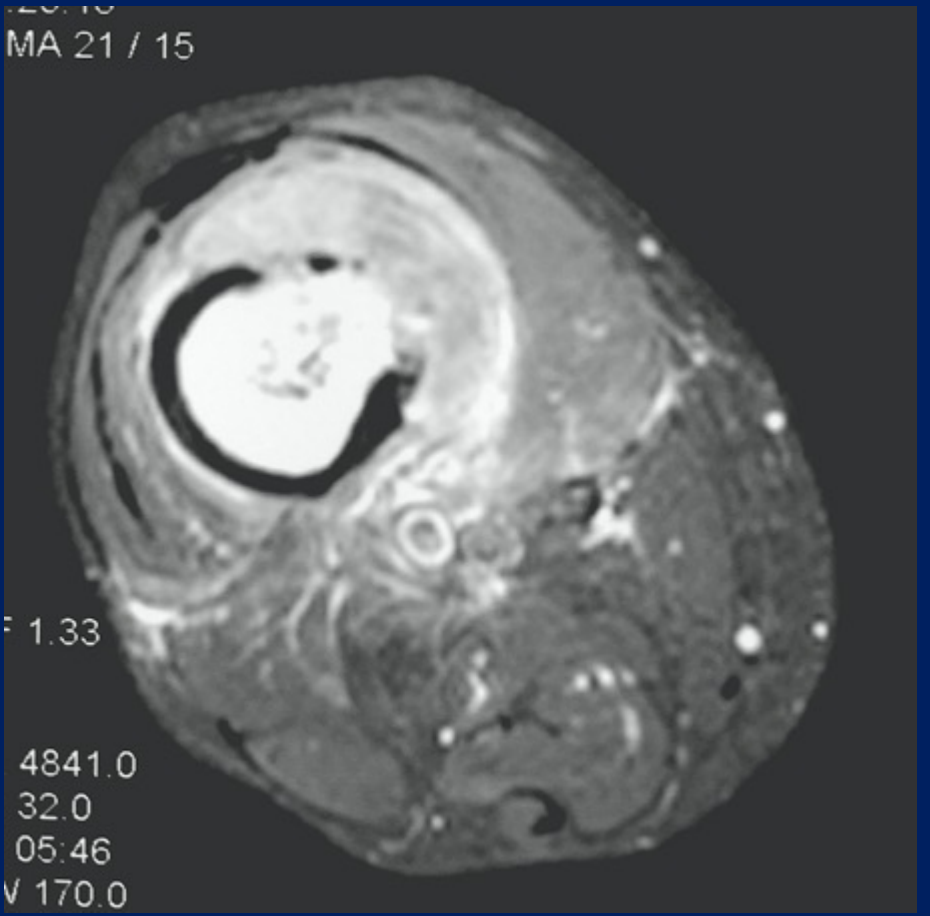
Extra-Articular Resection
3D Custom Made Shoulder Arthroplasty



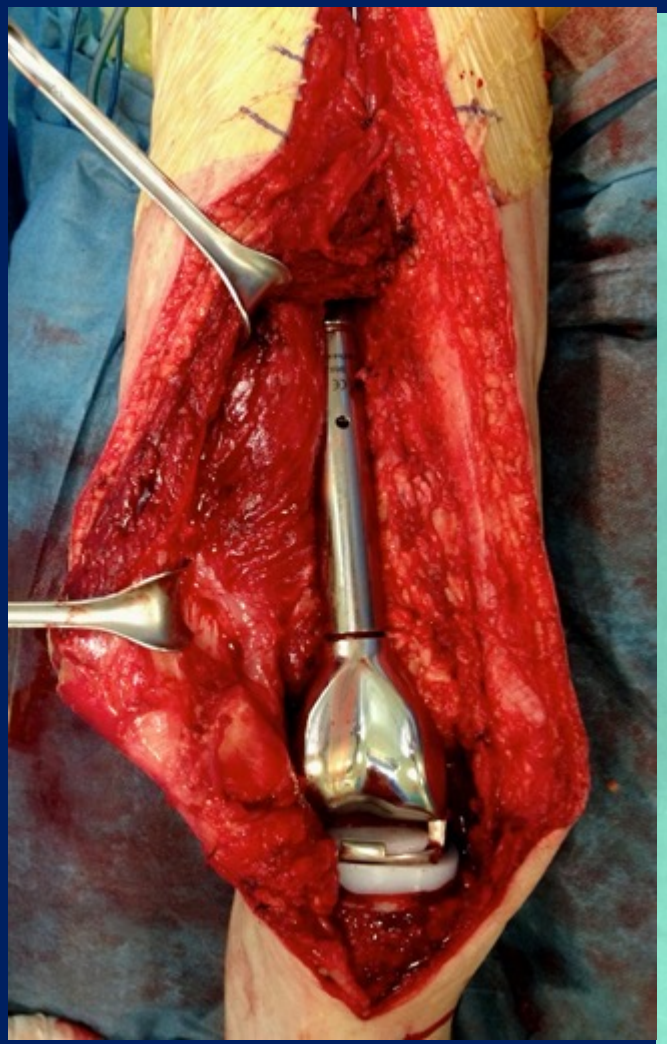




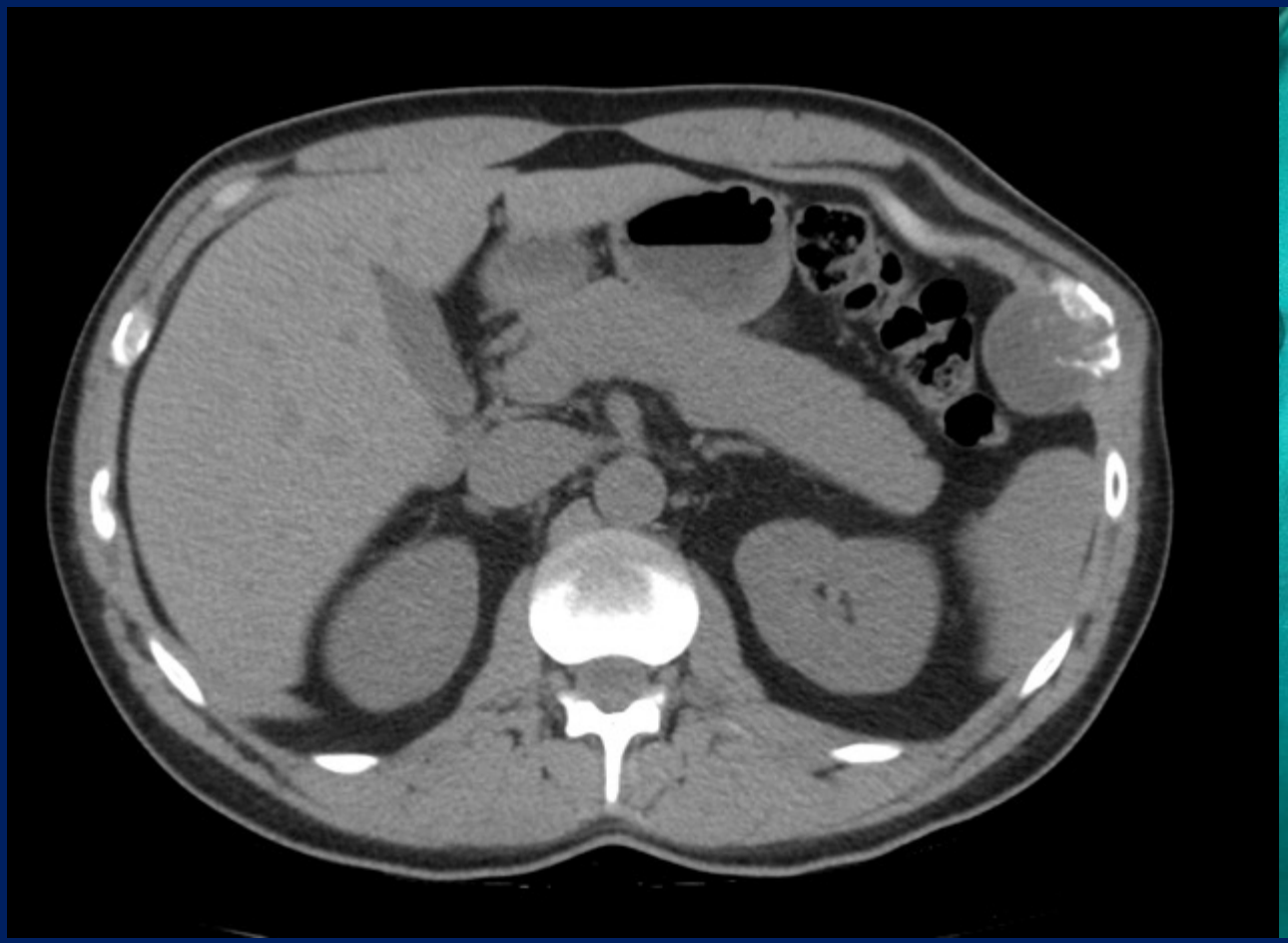
DD CHS 75y M
Soft tissue extension



Wide Resection. Prosthetic Reconstruction



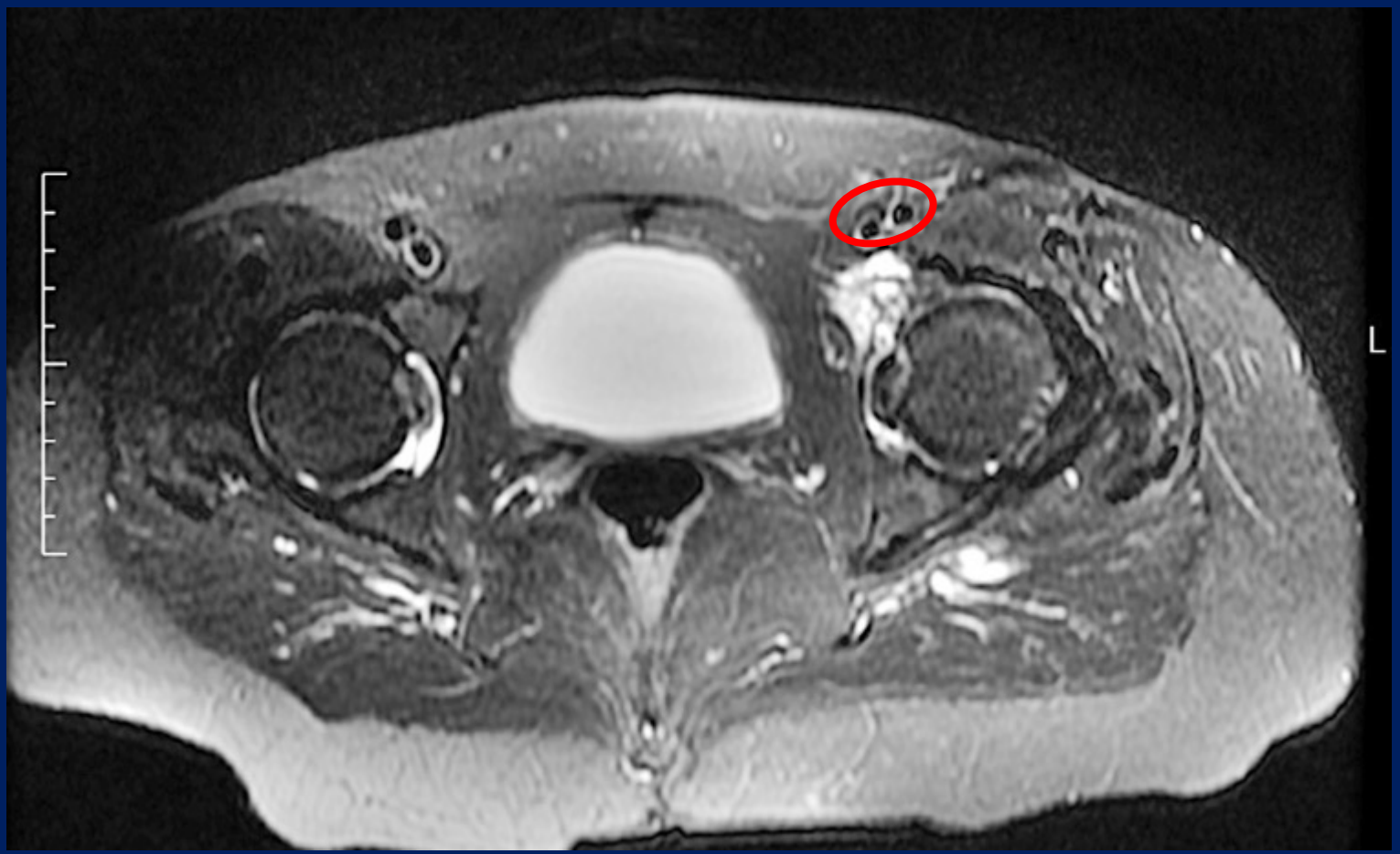
47 y M. CHS G2 Rib



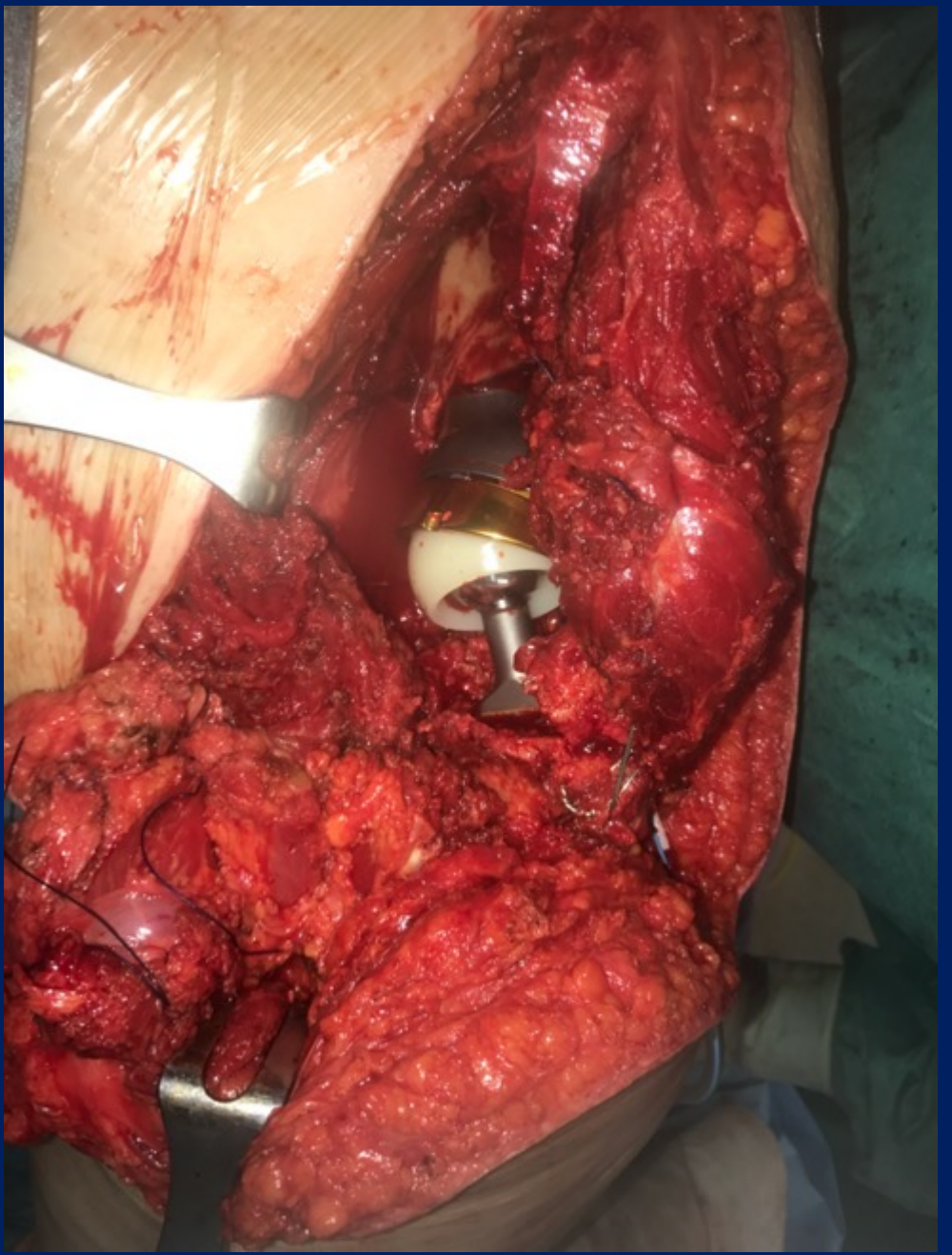
Archive Tomos P

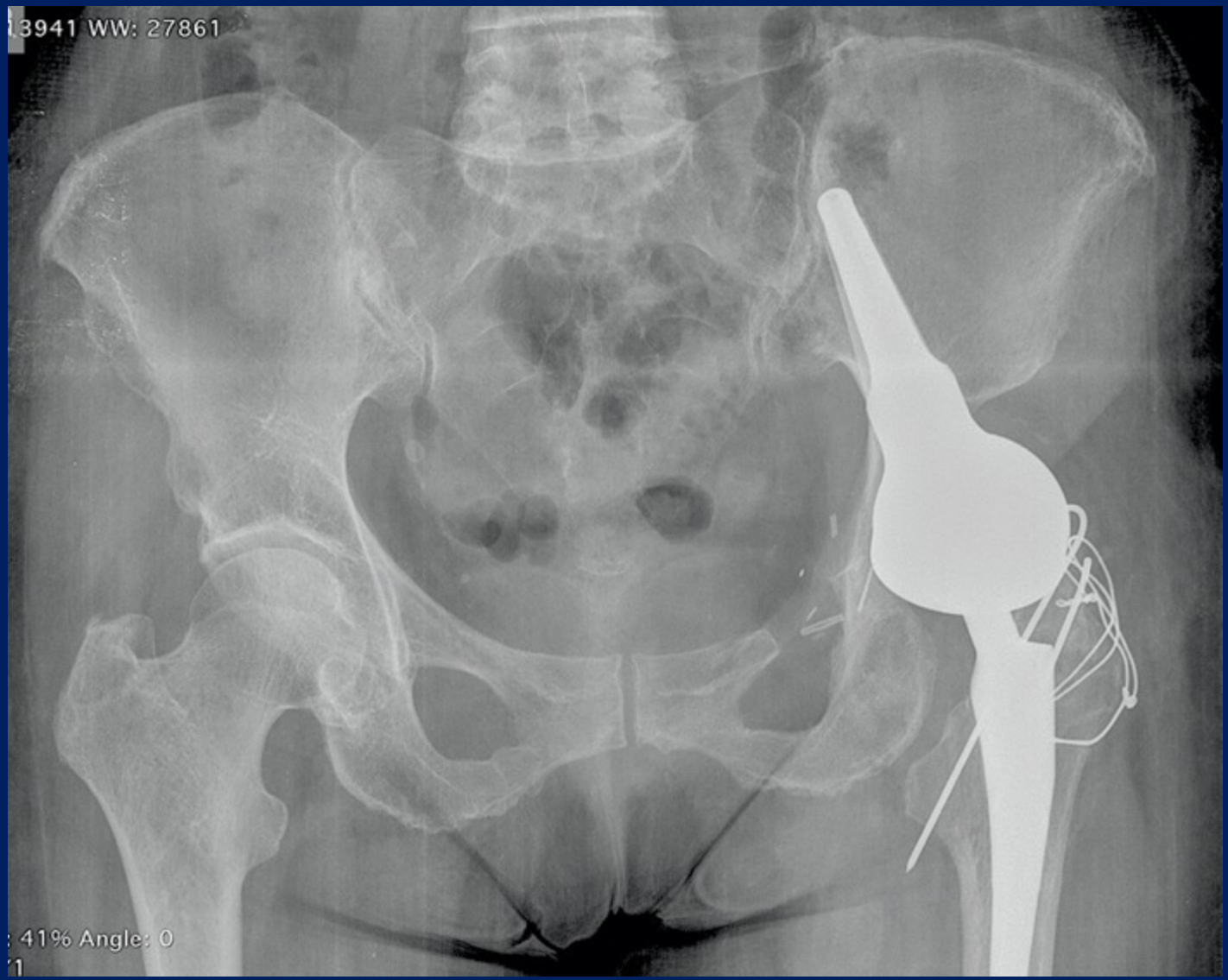
65y-F, Inguinal pain.

MRI: Infiltrartion of round lig. CNB: CHS G1

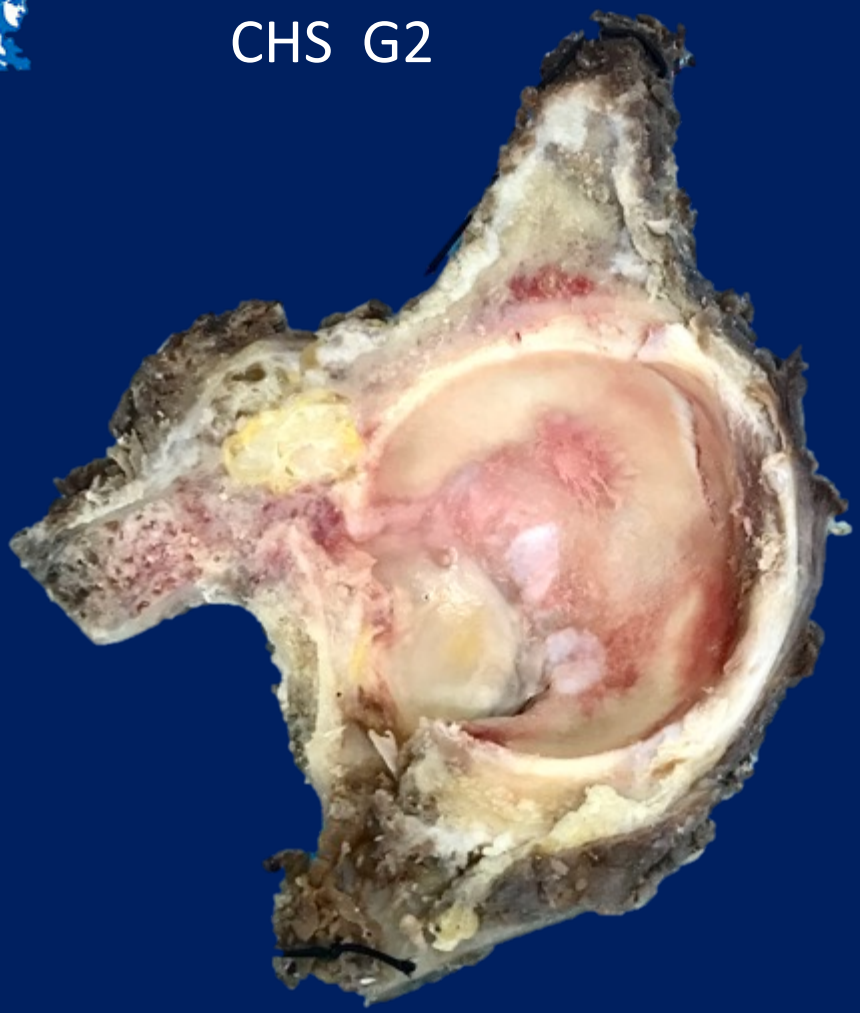


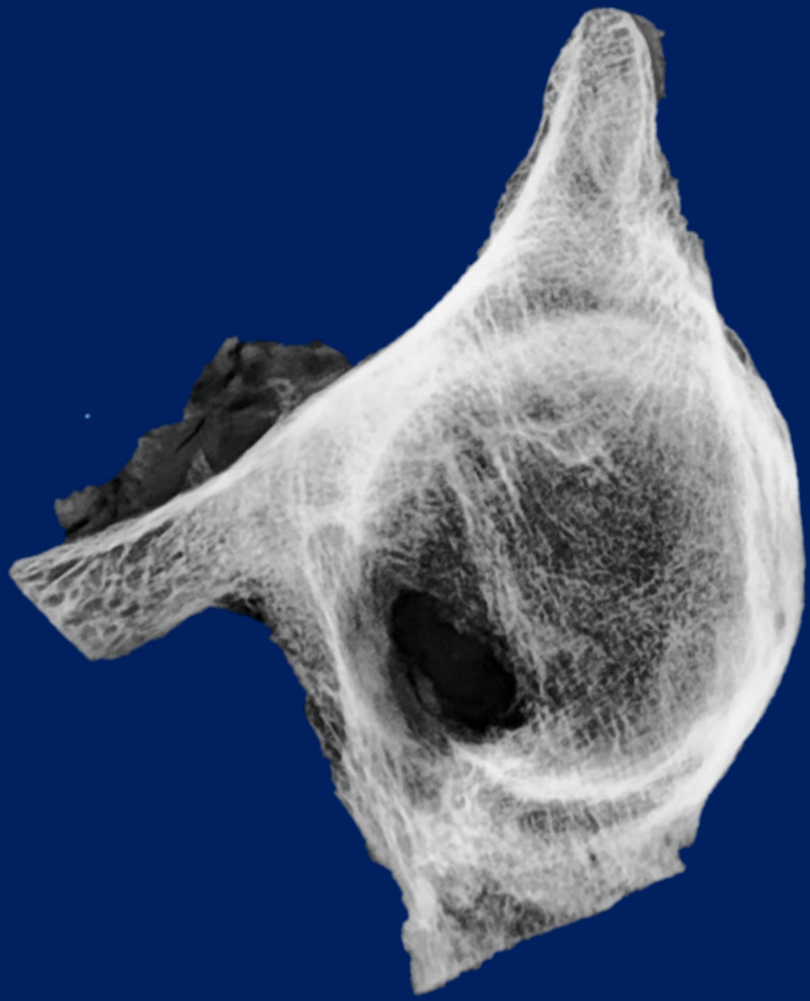
LUMiC Acetabular Prosthesis




3941 WW: 27861
41% Angle: 0

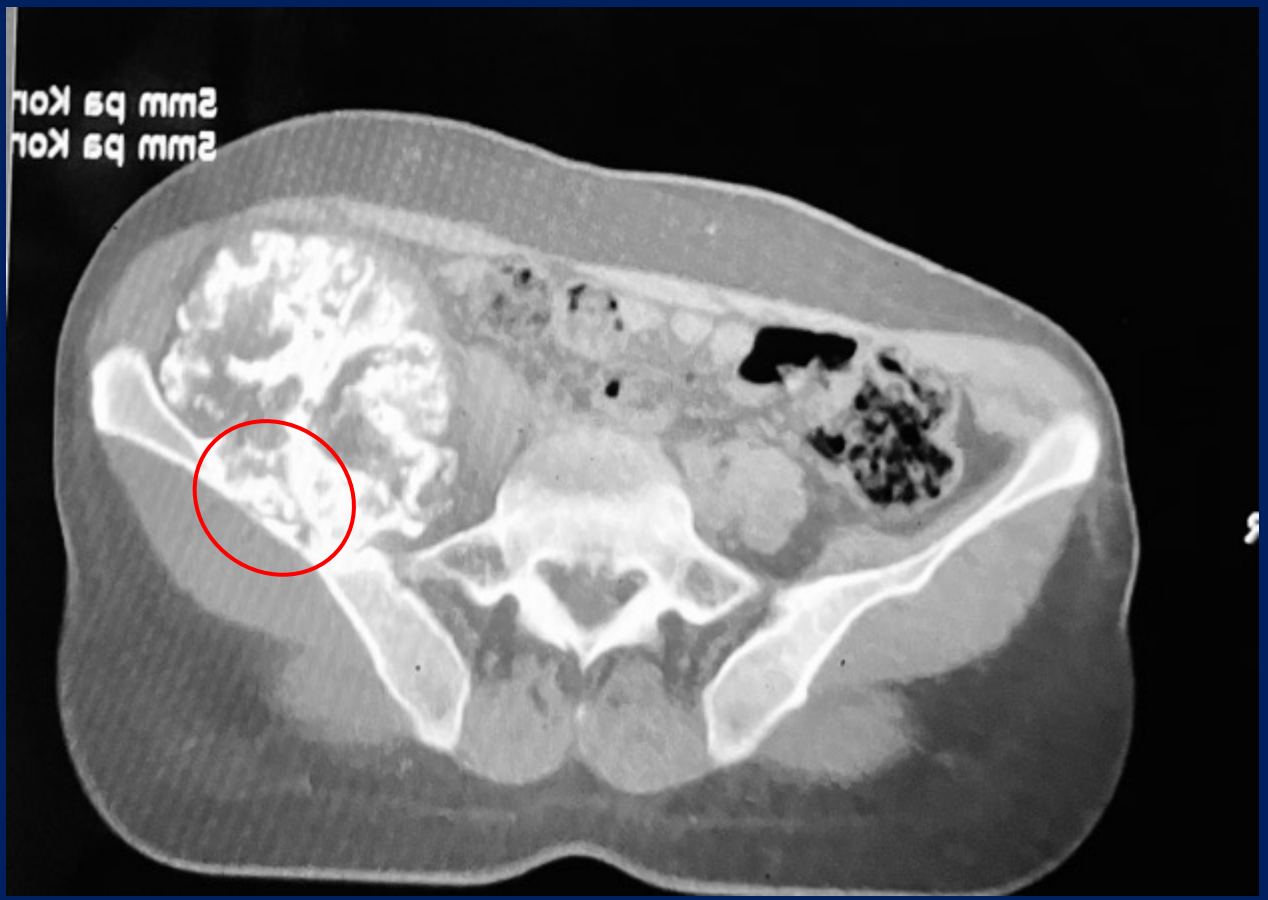
CHS G2



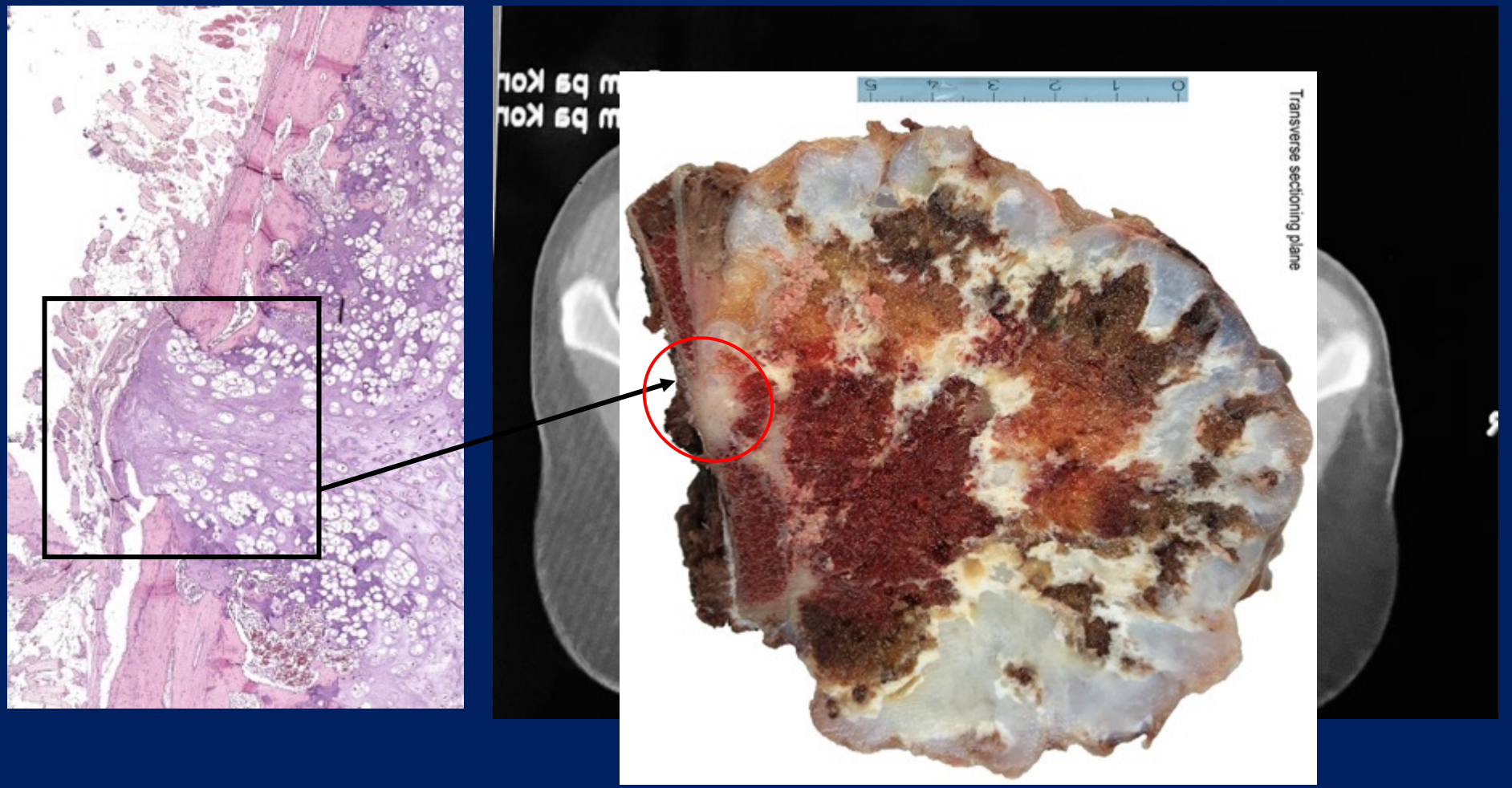


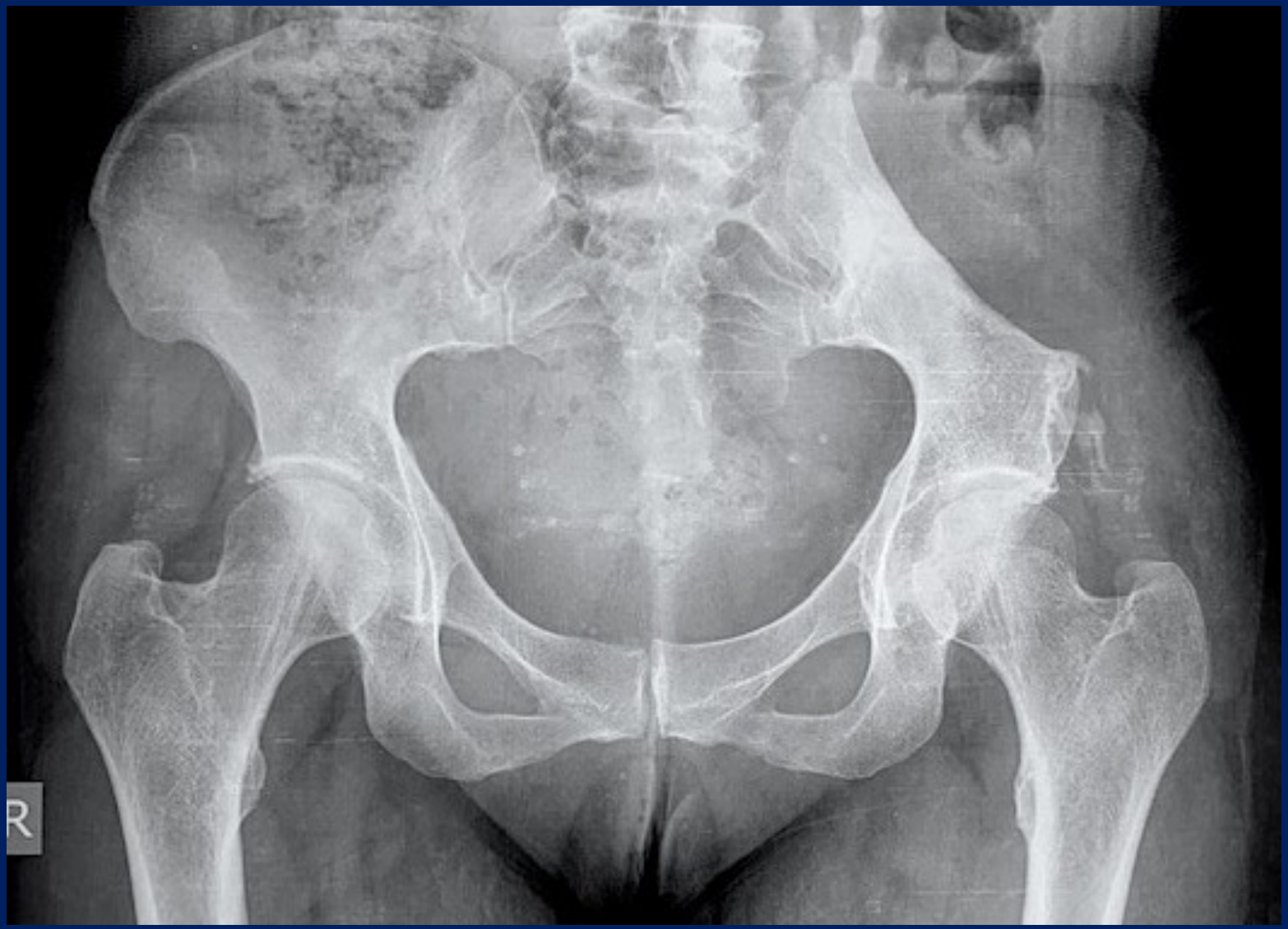
Archive Papachristou DJ

Secondary CHS



Secondary CHS

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Conclusion

- Limb saving about 90%
- Detailed evaluation of Imaging . X-ray and MRI
- Histology correlation to Imaging
- Important for Surgical Strategy

Thank You

Ευχαριστώ

Finger CHS