

DEGENERATION OF BENIGN CARTILAGE TUMORS: DIAGNOSIS AND PROGNOSIS

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Communication présentée au congrès européen de la société des
tumeurs du squelette (EMSOS) en mai 2008

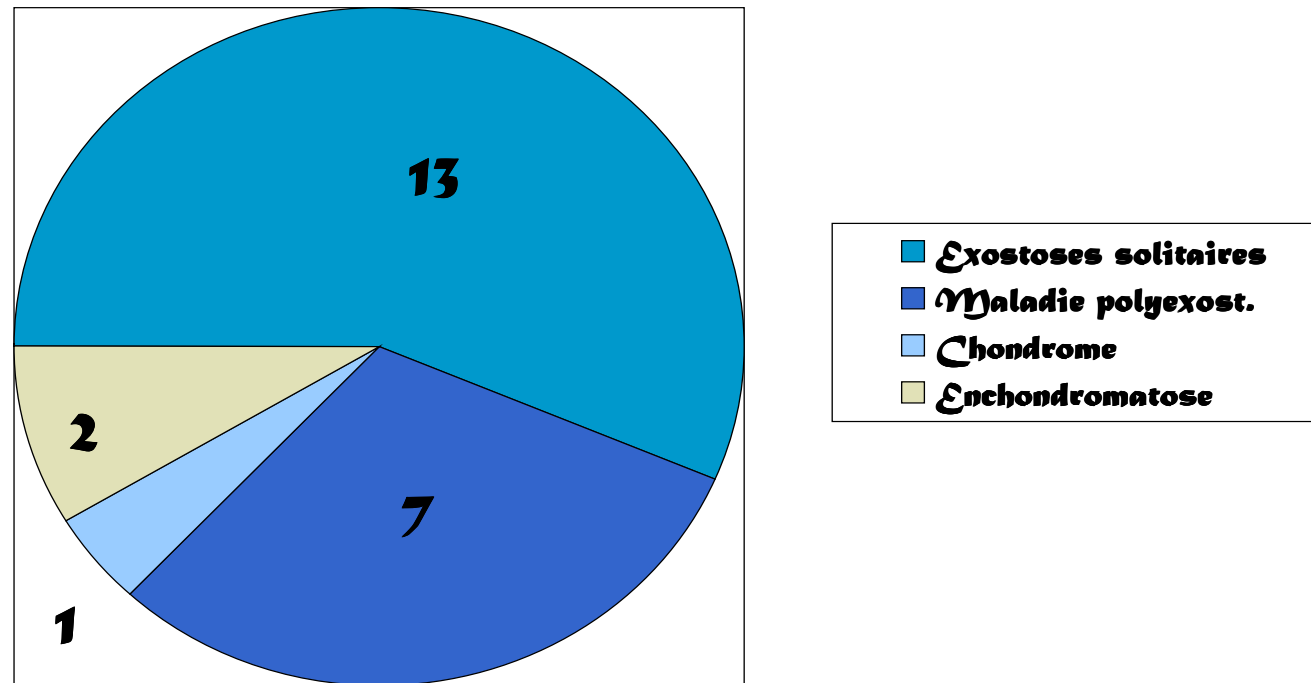


In our records on bone tumours,

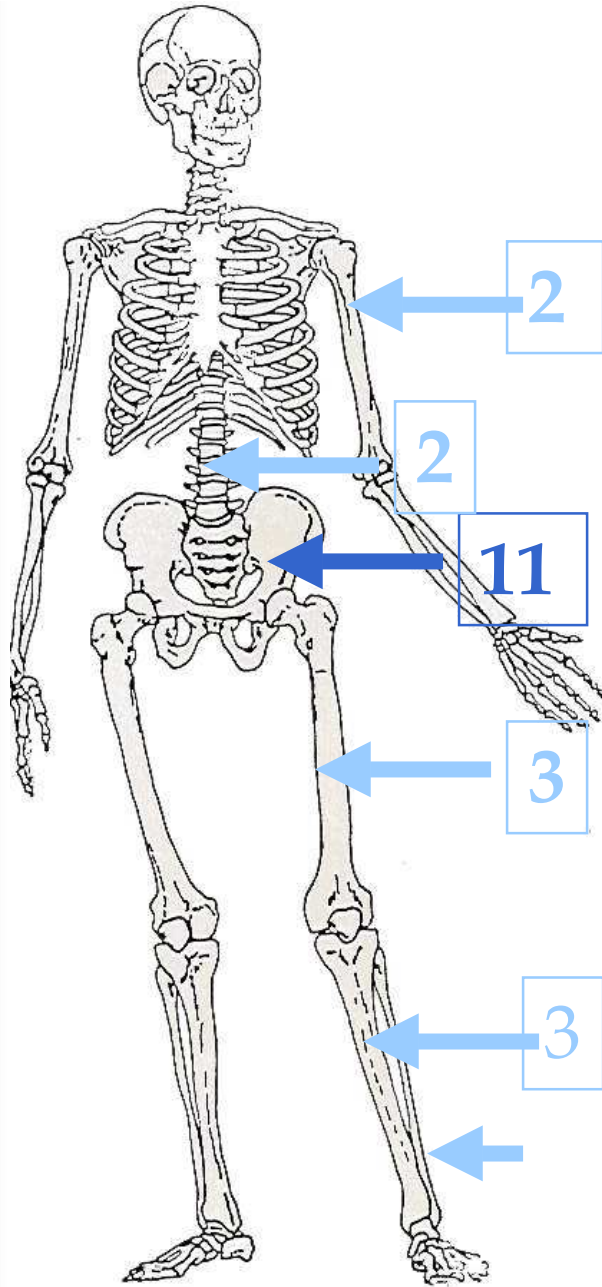
- **secondary chondrosarcomas account for less than 15% of all chondrosarcomas (23/150).**
- **The presentation is quite variable making diagnosis relatively difficult.**
- **We reviewed our experience to evaluate diagnosis, frequency, and prognosis.**

Material and methods

From 1981 to 2002, we observed 23 chondrosarcomas which developed on pre-existing lesions: solitary exostoses (13), solitary chondroma (1), multiple exostoses (7), multiple enchondromatosis (2).

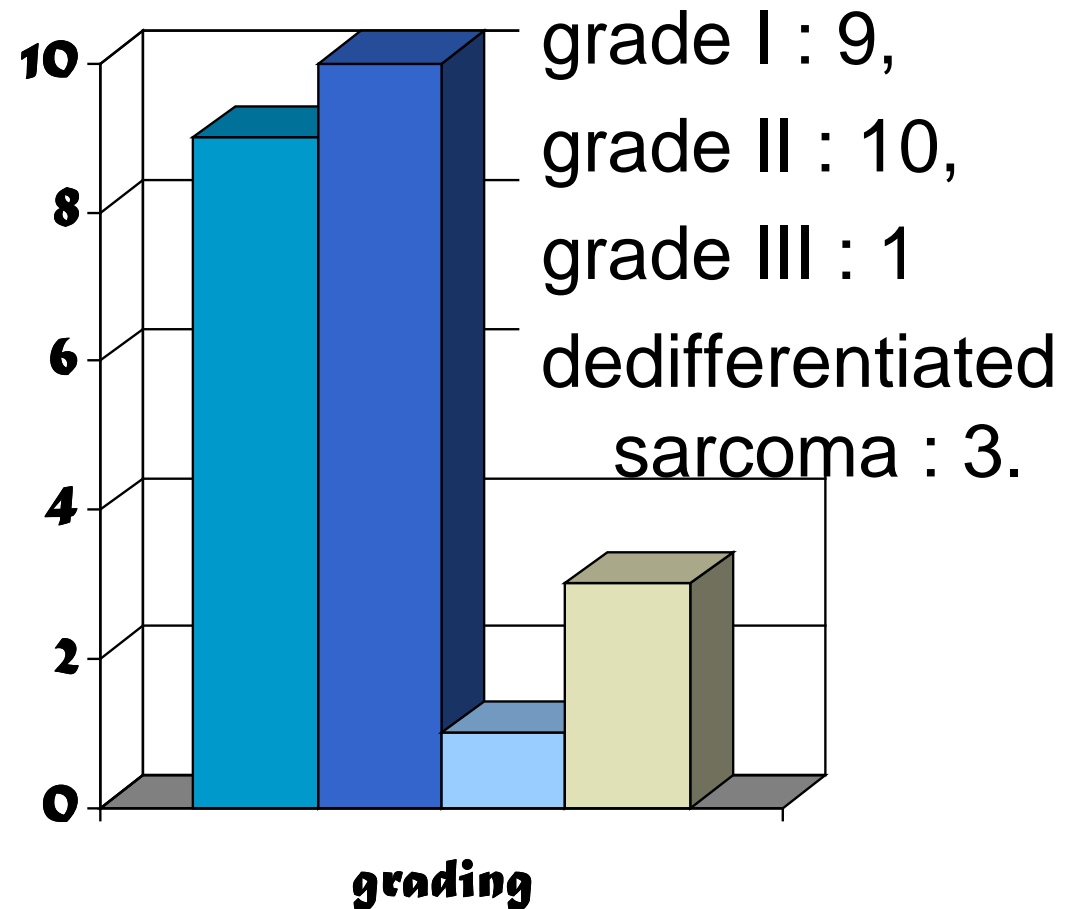
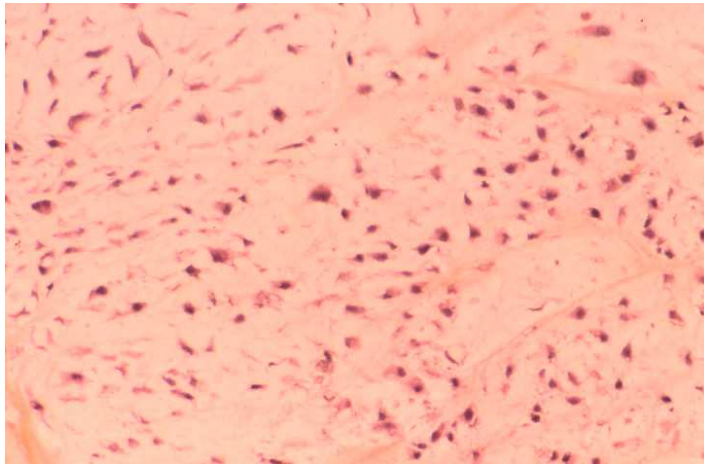


Locations of tumors



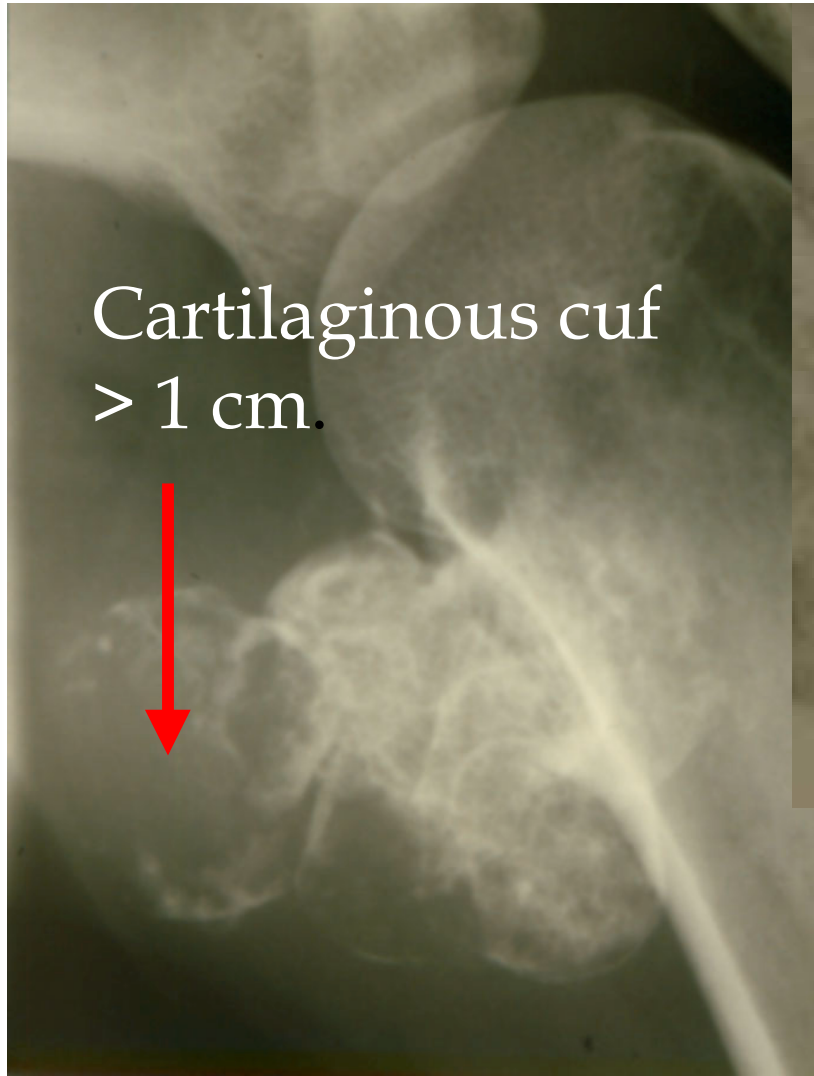
■ Pelvis	11
■ Femur	3
■ Tibia	3
■ Spine	2
■ Humerus	2
■ Scapula	1
■ Fibula	1

Grading of tumors

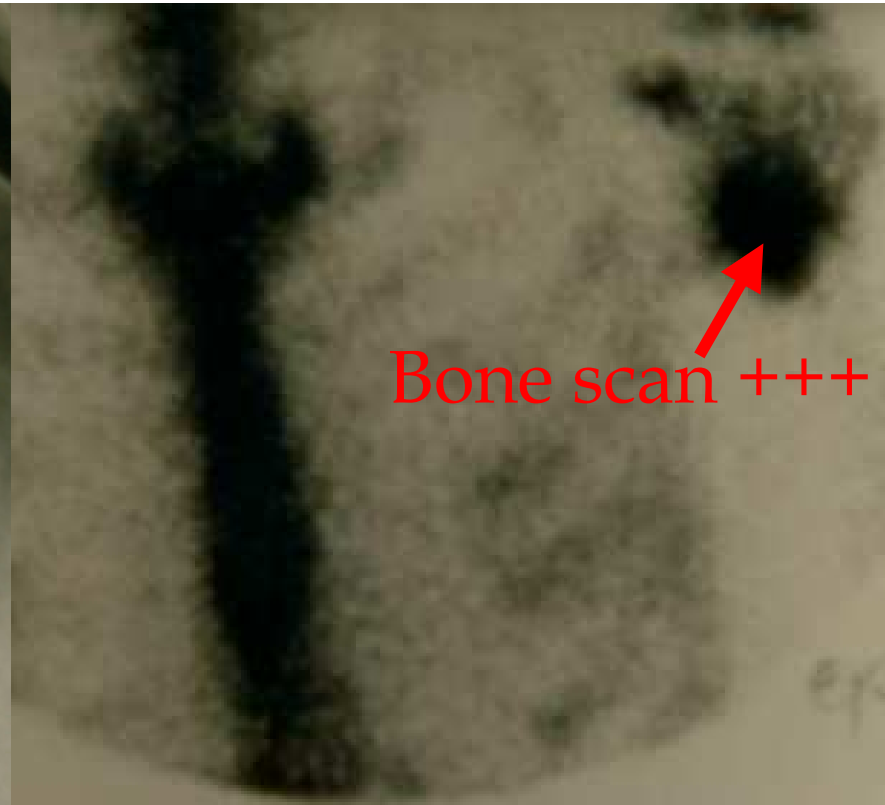


80% were low grade chondrosarcoma

Grade 1 solitary exostosis



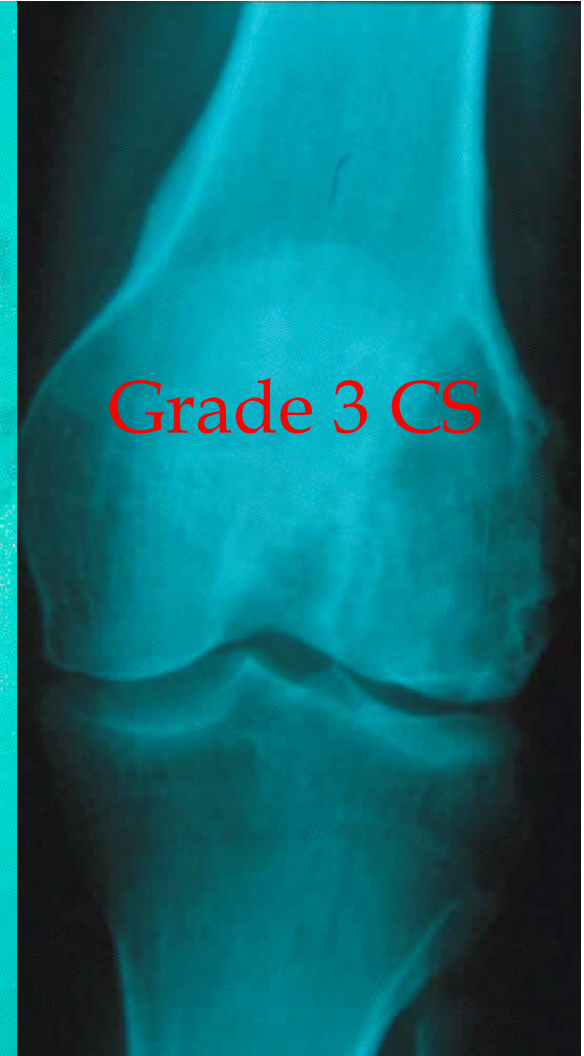
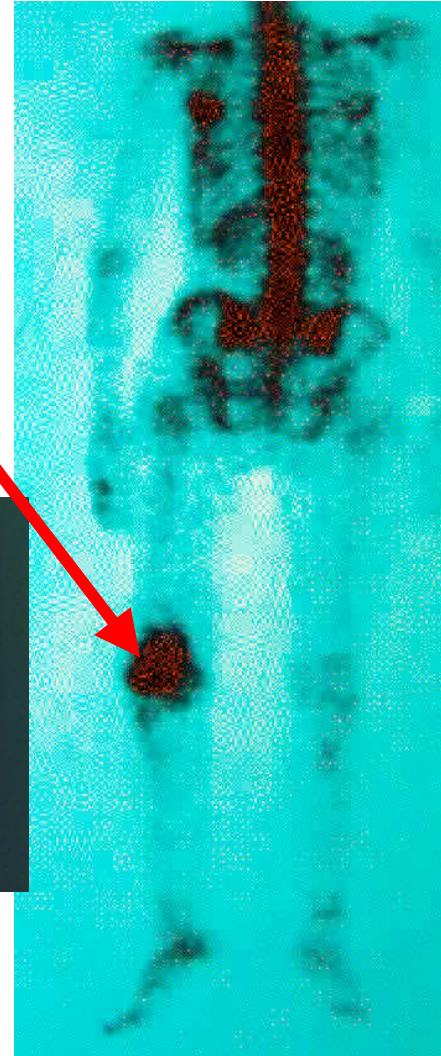
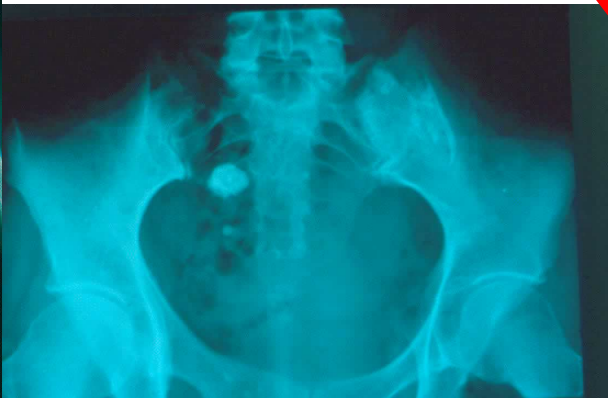
Secondary chondrosarcoma



May 2008

Enchondromatosis

- 38 years old.
- Pain on the knee
- Bone scan positive.



Secondary chondrosarcoma

May 2008

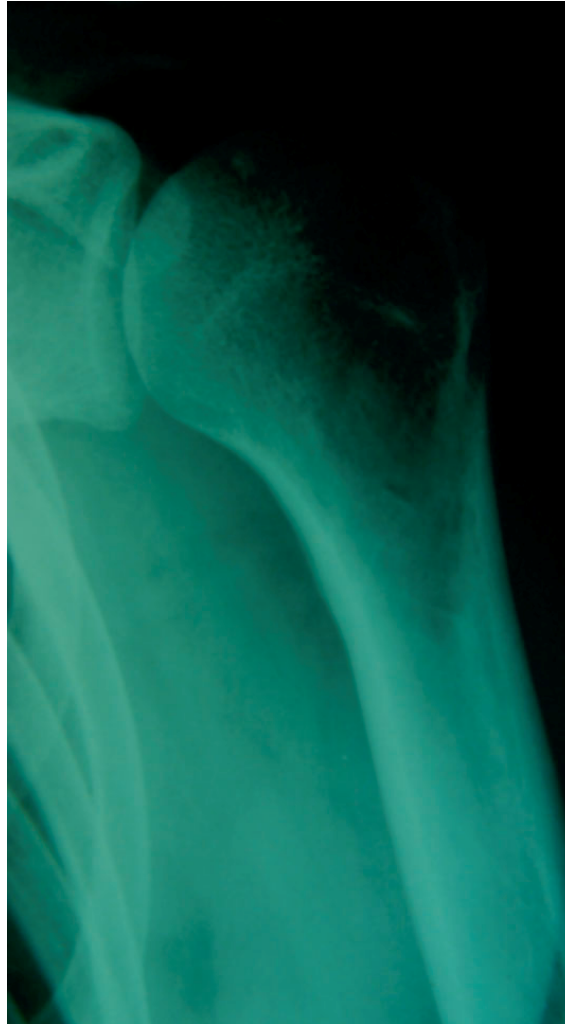
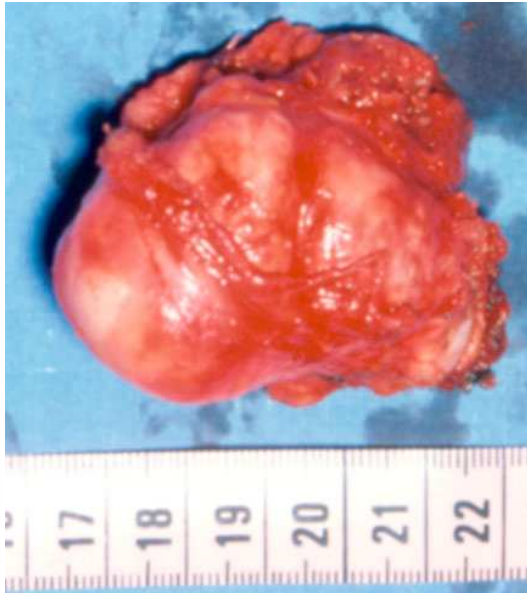


Surgery was performed in all patients

- **alone for grade I and II chondrosarcoma,**
- **in association with chemotherapy (3) and radiotherapy(1) in three patients with dedifferentiated sarcoma.**

Resection without reconstruction

■ Wide resection



- Grade 1 chondrosarcoma.
- EFS 25 Years

Resection without interruption of pelvic ring

- Patients aged 38
- Recent modification of an old known exostose
- Biopsy : dedifferentiated chondrosarcoma

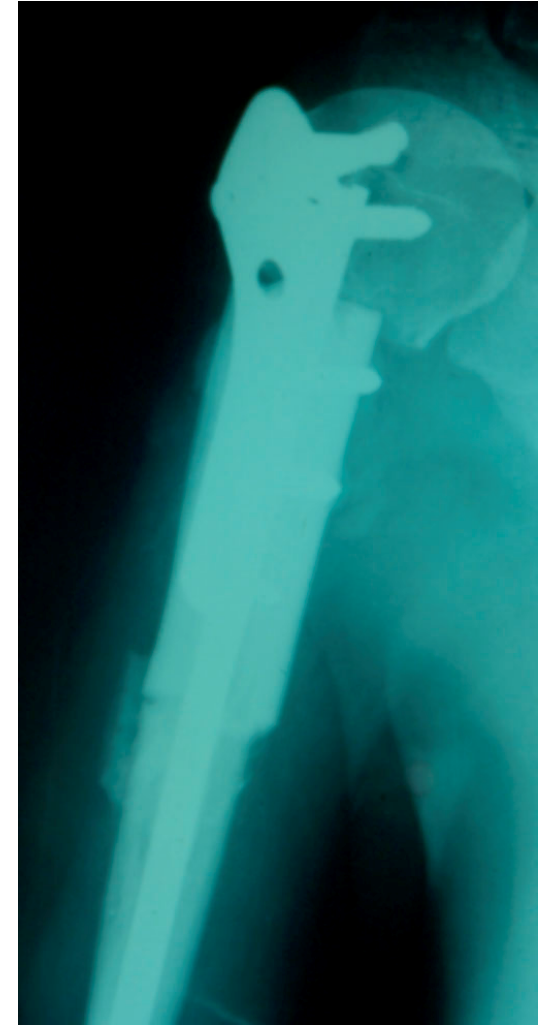


Wide resection and chemotherapy . EFS 21 ans

Wide diaphyseal resection



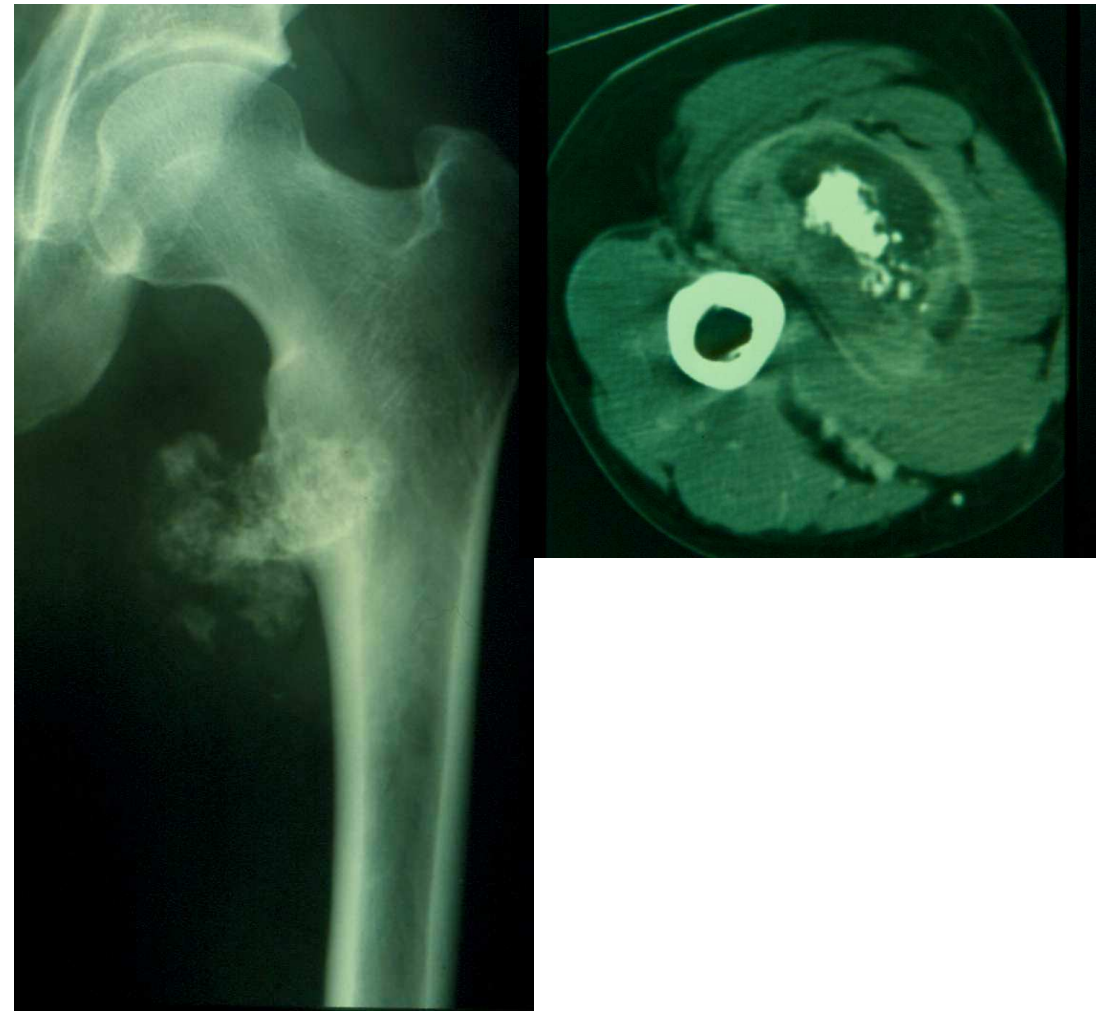
- Wide Resection
- reconstruction with allograft. EFS 23 Years



Dedifferentiated chondrosarcoma

- Patient aged 30 with pain in the hip for 3 months.
- Medical imaging showing a two thick cartilaginous cuff.

Biopsy :
dedifferentiated
chondrosarcoma



CS secondary to solitary exostosis

- Young lady 34 years
- sciatic pain for 3 months.
- TDM demonstrating a too thick cartilaginous cuff (>1 cm).
- Wide resection without biopsy.
- Grade 1 Chondrosarcoma



Wide periacetabular resection (2)

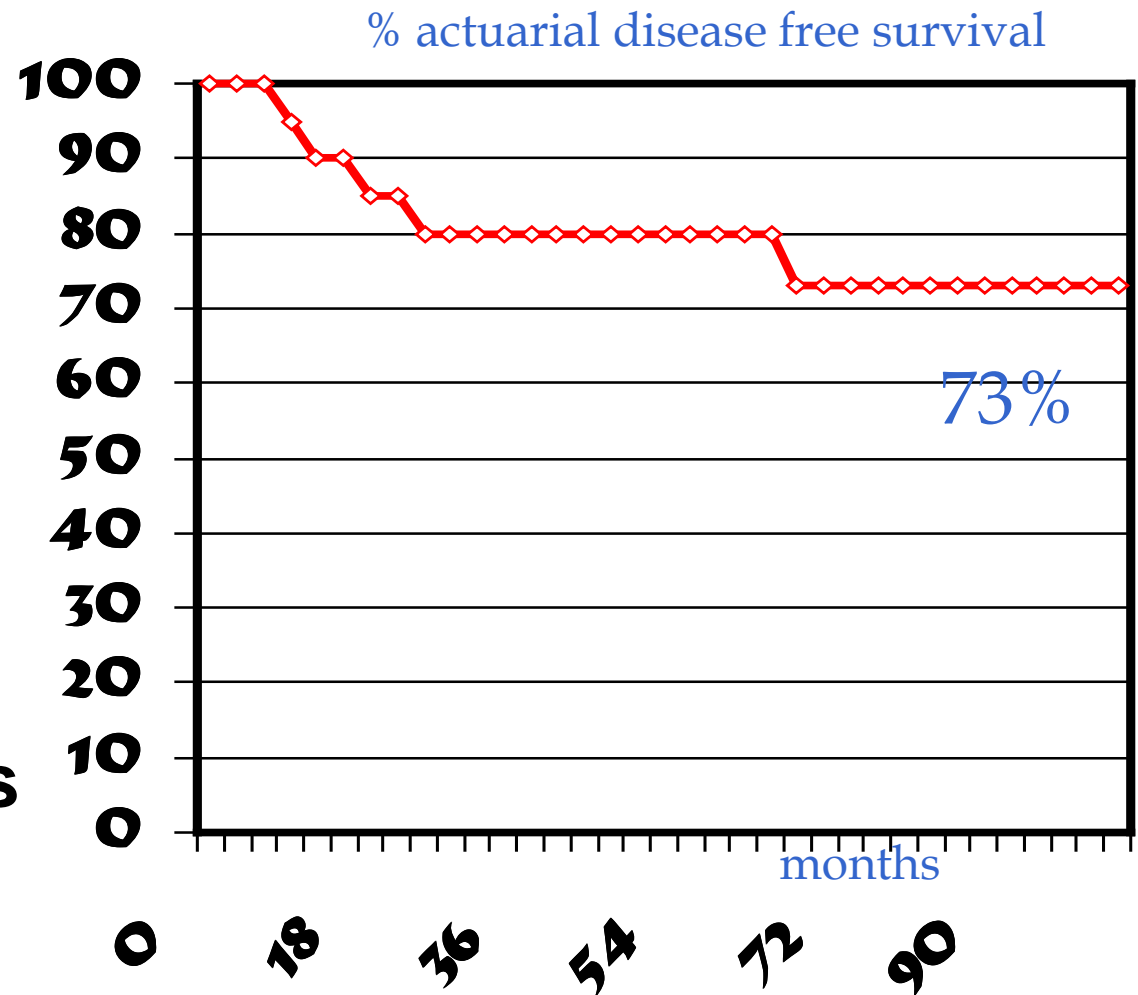
- Reconstruction with allograft and total hip prosthesis.
- After 12 years deep infection secondary to peritonitis.
- Two steps hip replacement



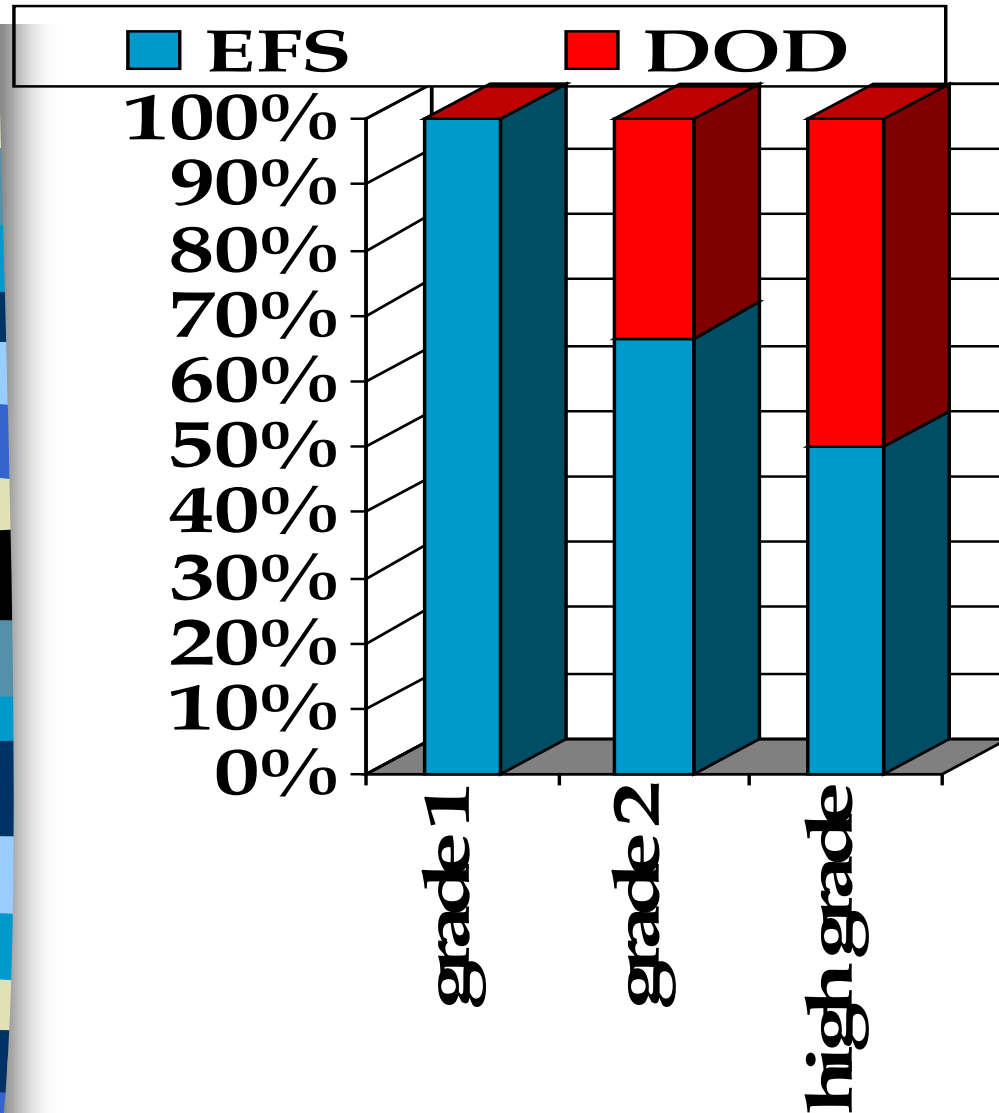
10/2007 : EFS with 20 years follow up.

Oncologic results

At last Follow Up mean 13 years 9 months, six died after local recurrence (4) or metastatic dissemination (2). The other 17 patients are DFS with a mean FU 182 months.



The main prognostic factor is histology



- All patients with grade I chondrosarcoma (7) survived
- versus only two-thirds of those with grade II chondrosarcoma,
- half (2/4) of those with grade III or dedifferentiated chondrosarcoma.



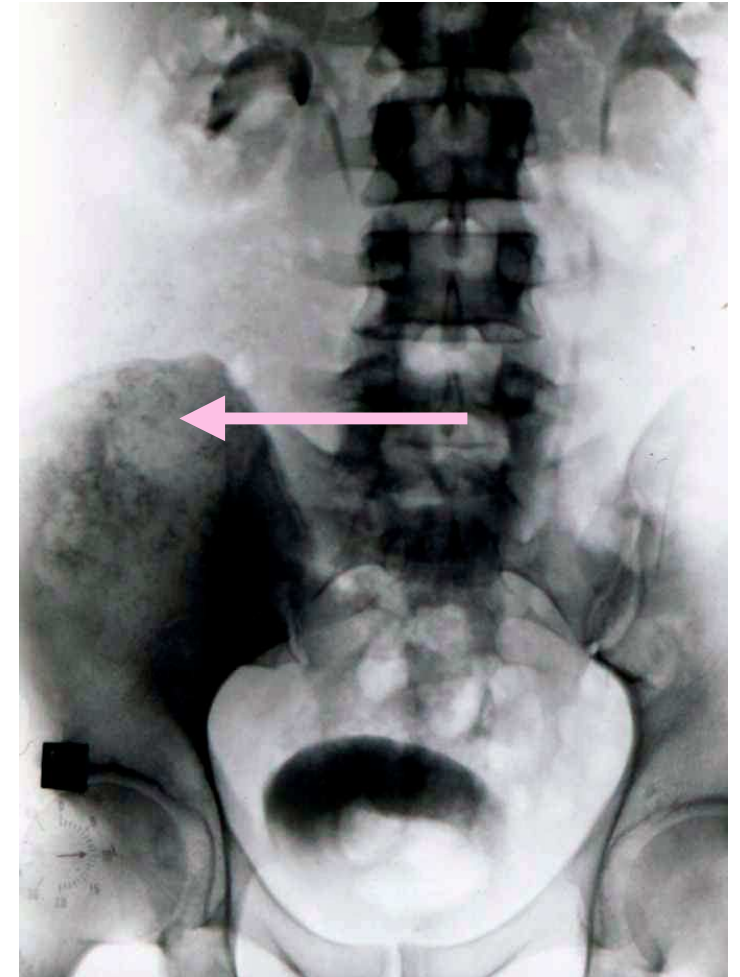
The second prognostic factor was initial management

- **Inadequate care initially led to misdiagnosis**
- **or delayed diagnosis (4),**
- **local recurrence (3)**
- **and loss of chance of survival (3)**

Risk of inadequate biopsy

grade II Chondrosarcoma

- Patient 23 years
- Pain in right iliac
- Trans peritoneal biopsy.
- Died after 6 years from local recurrences



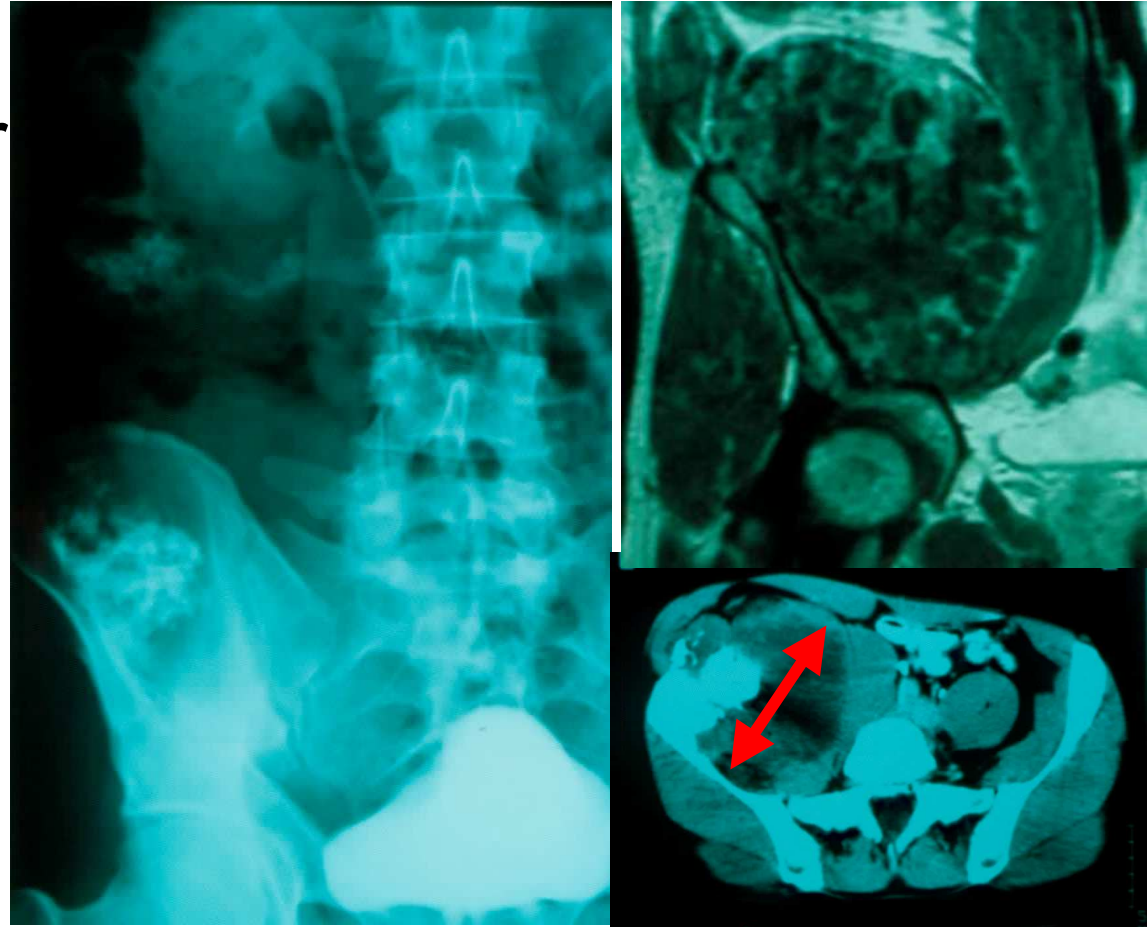


Difficulty of diagnosis

- **Grade I chondrosarcoma was**
- **occasionally taken for benign exostosis despite a cartilage cuff**
- **measuring more than 1 cm.**

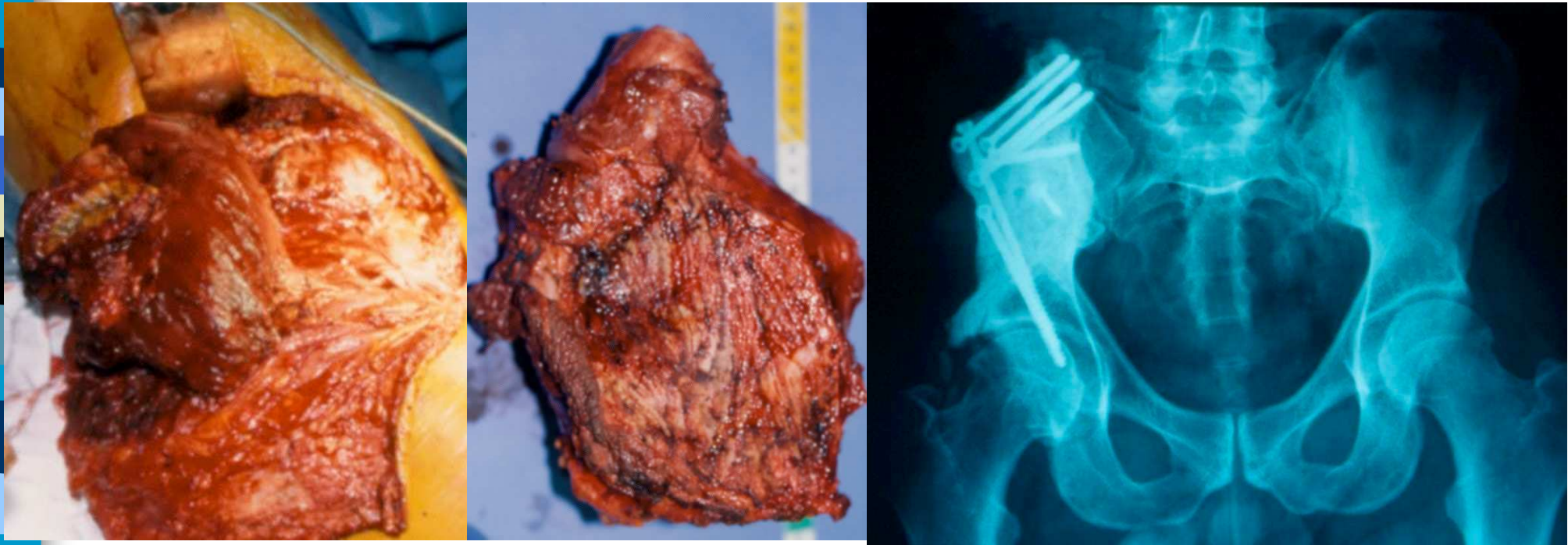
Difficulties of diagnosis

- Patient 42
- Cartilaginous tumor of iliac
- Biopsy : benign exostosis
- Diagnosis refuted by surgeon on the **too large size of the cartilaginous cuff**
- **En bloc resection**



Difficulties of diagnosis

- Histology of the total resected specimen :
- grade 1 chondrosarcoma .



EFS 12 Years. Perfect functional result



Conclusions 1:

Because of the severity of secondary dedifferentiated chondrosarcoma, **resection should be performed prevently in adults presenting an exostosis with residual cartilaginous cuff, particularly in high-risk locations(pelvis).**



Conclusions 2 :

- Because of difficulty in recognising histological features of grade I chondrosarcoma, **diagnosis of degeneration should be retained in adults when cartilaginous cuff exceeds 1 cm.**
- Lesions are suspicious if cartilage cuff exceeds 5 mm.