DEGENERATION OF BENIGN CARTILAGE TUMORS: DIAGNOSIS AND PROGNOSIS

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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

Secondary chondrosarcoma

May 2008
Grade 1 solitary exostosis

Cartilaginous cuff > 1 cm.

Bone scan +++

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.
Secondary chondrosarcoma

Resection without reconstruction

- Grade 1 chondrosarcoma.
- EFS 25 Years

May 2008
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.

Secondary chondrosarcoma

May 2008
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.

Secondary chondrosarcoma

May 2008
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.