

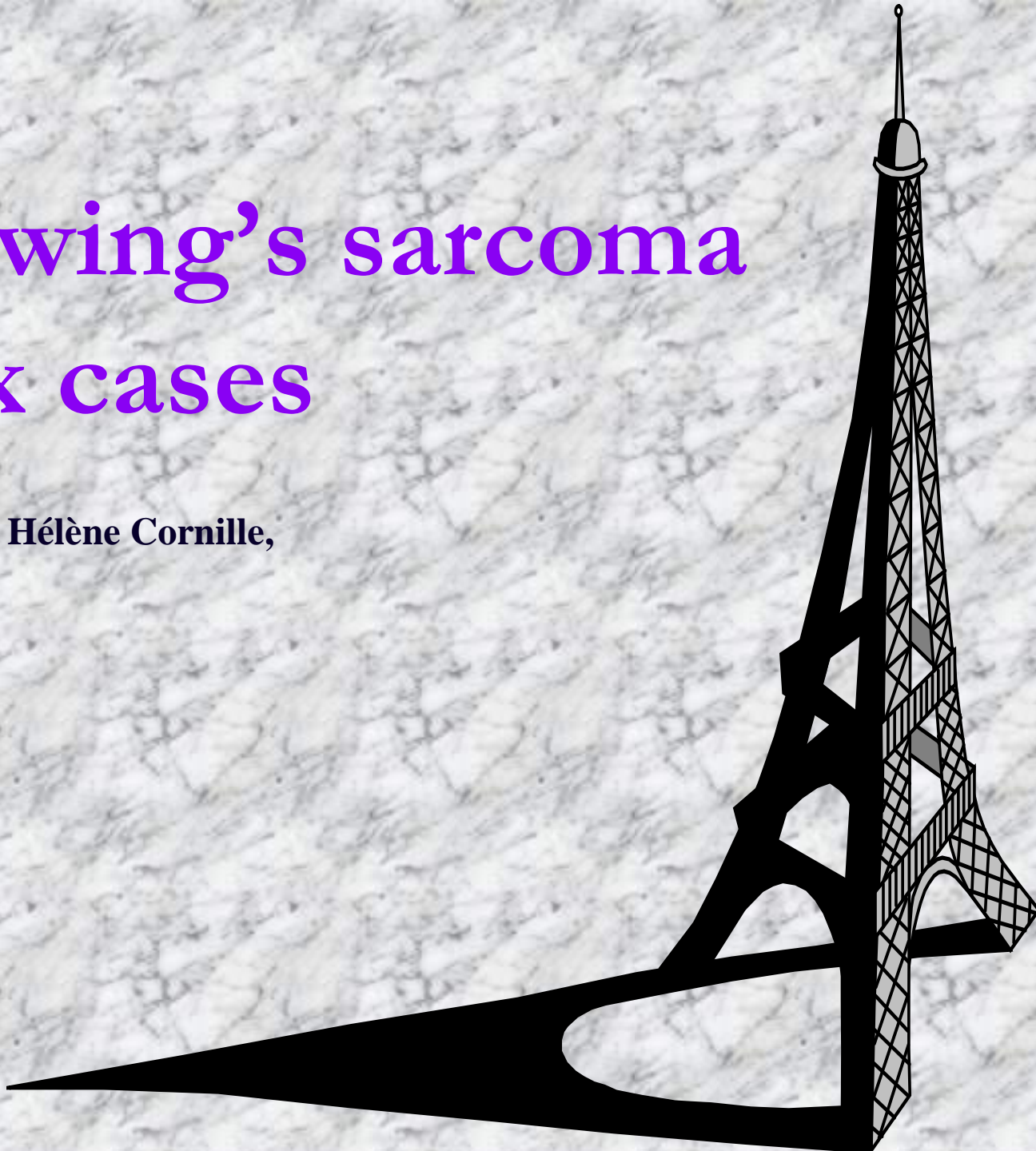
Periosteal Ewing's sarcoma

Report of six cases

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Introduction

- Few cases of periosteal Ewing's sarcoma have been reported and the surgical implications of such a diagnosis have not been underlined.
- the aim of this study is to evaluate
- the actual incidence
- the consequence for surgical treatment.

Material

- our file of 148 patients treated for ewing's sarcoma of bone throughout 1982-2002 have been examined to see if they fit the diagnostic criteria and to evaluate the pronostic value and the therapeutic implications of it.

Definition of periosteal Ewing's sarcoma

- The reported cases fulfilled the diagnosis criteria defined by Bator :
- Ewing's sarcoma of bone histologically confirmed
- with a pure periosteal location
- without medullary extension.

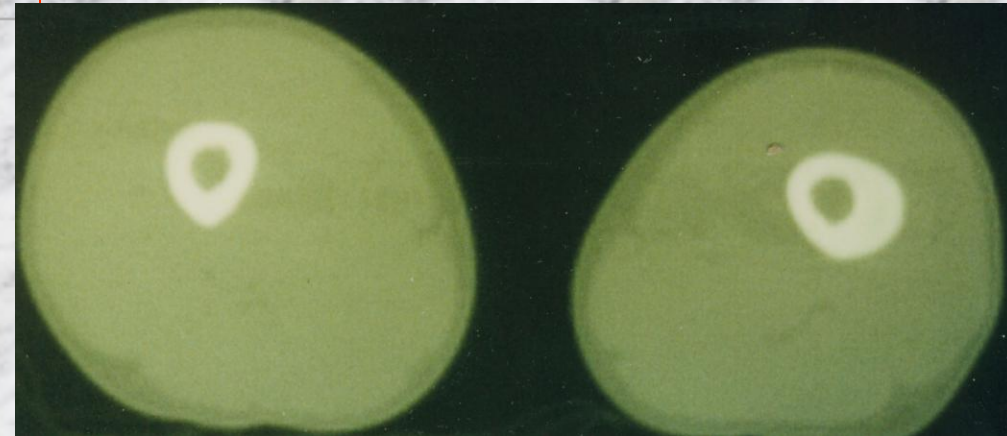


Results

- Out of 148 Ewing's sarcomas of bone of our file, only six (4 %) could be classified as PES.
- All involved the femur in the diaphyseal (2) or metaphysodiaphyseal (4) locations.
- According to Enneking classification 2 tumors were graded II A and the 4 other II B.
- Age of the patients ranged 11 to 19. All patients were treated by resection after preoperative chemotherapy. One was irradiated .

Case 1: 14 Y Boy

1.4.1986



**CT scan showing
diaphyseal thickening
no medullary involvement
no soft tissue extension**

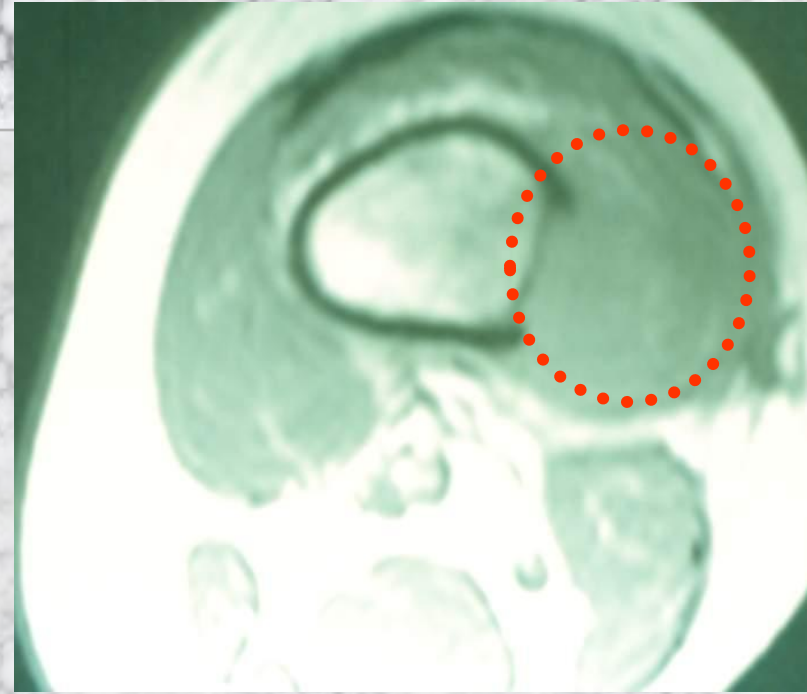
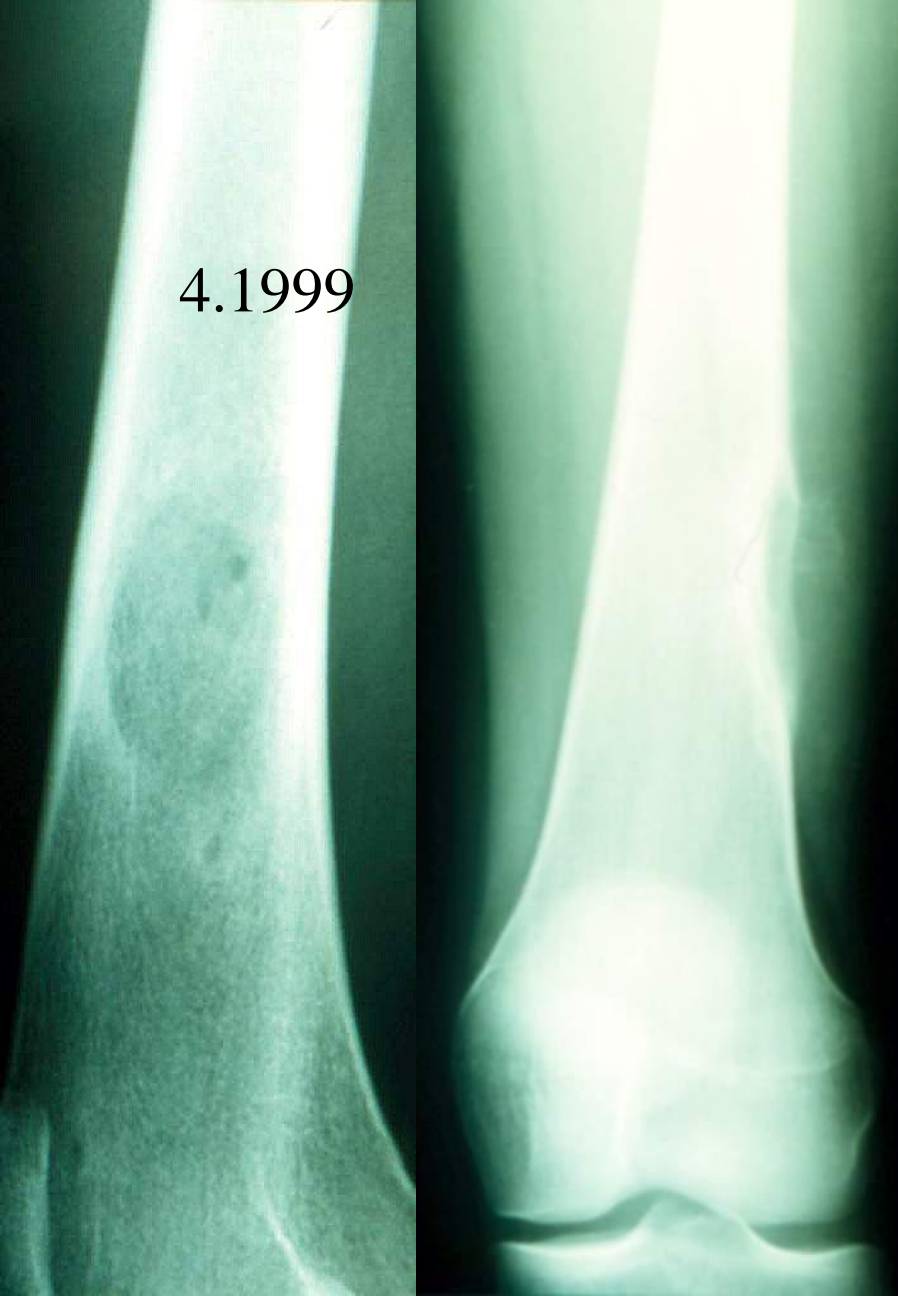
Case 2 a 13 y old boy



- **NMR showing a hemidiaphyseal tumor**
- **CT scan without medullary invasion**

Case 3 : Girl 18 Y

4.1999



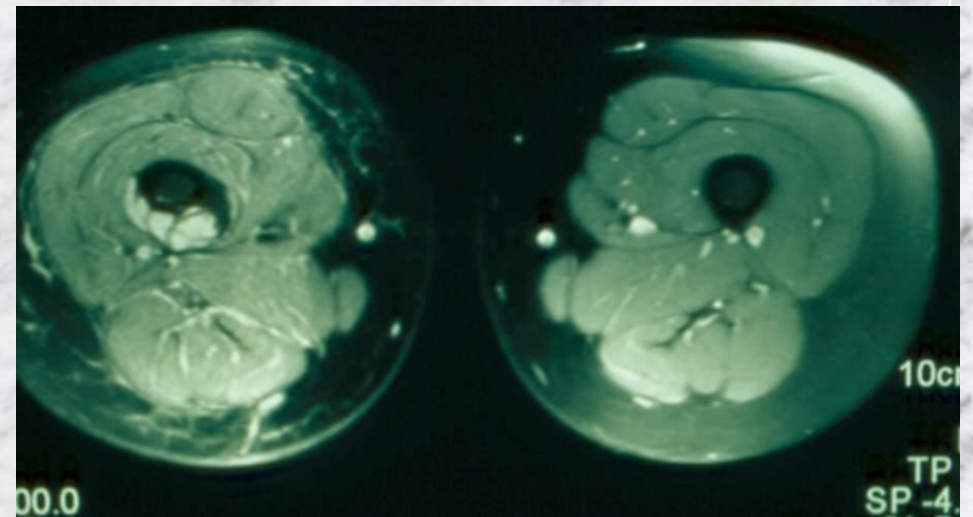
- **NMR showing a soft tissue mass**
- **a remaining endocortical line**
- **no medullar tumor**



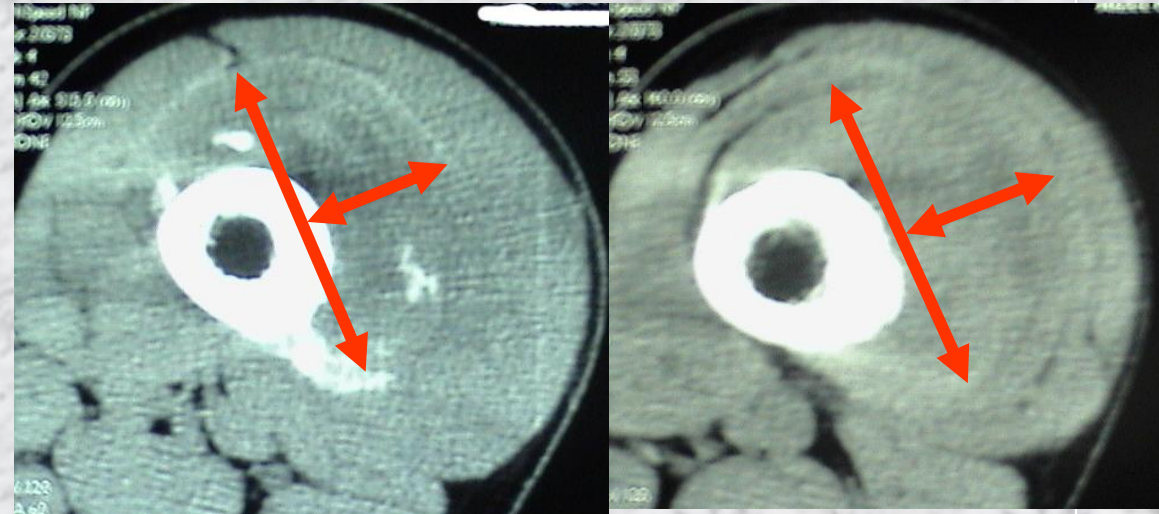
Case 4 : a 17 y old girl

**NMR showing a small
soft tissue mass**

no medullary tumor

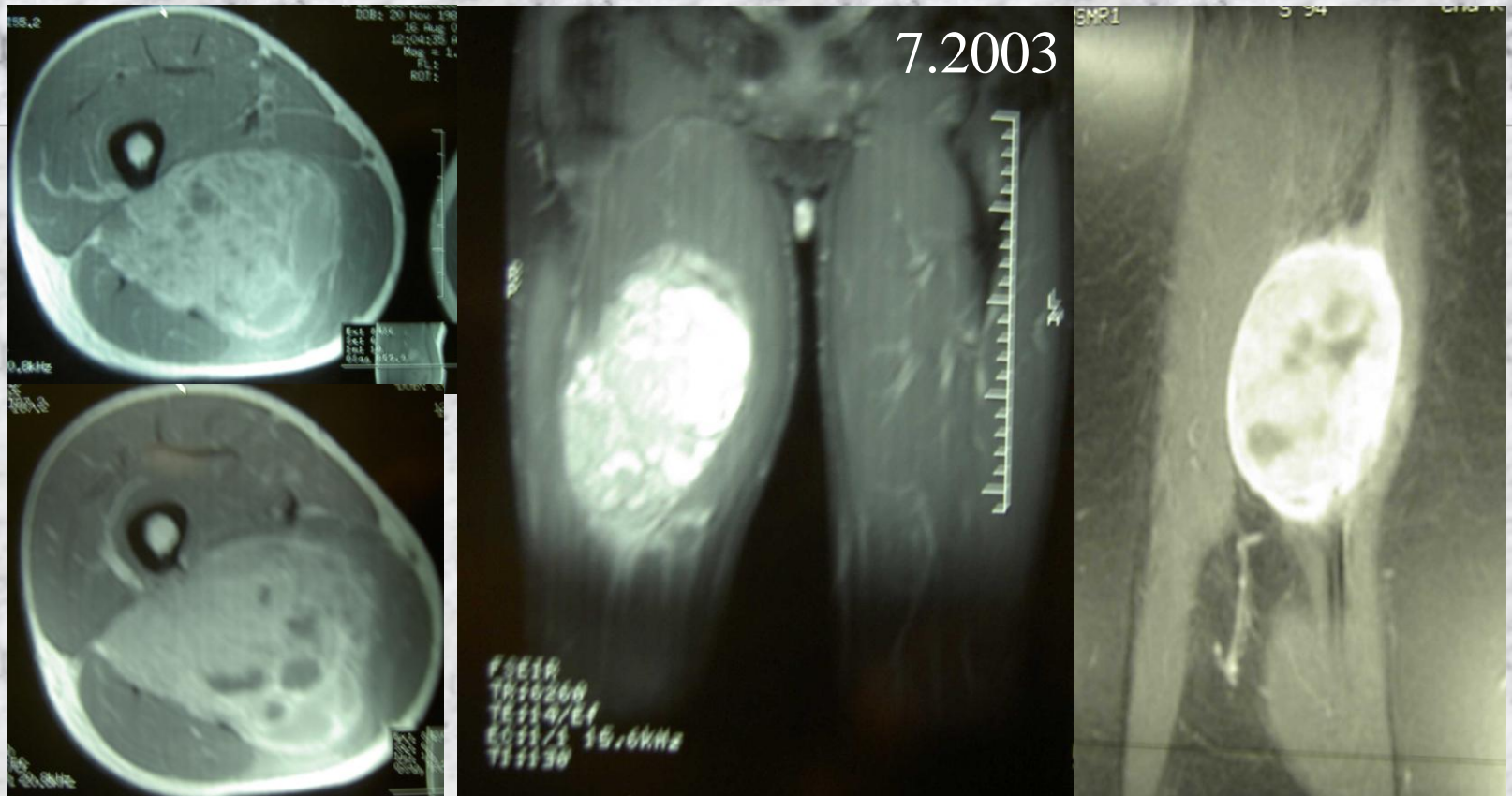


Case 5 17 y old boy



- **NMR showing a soft tissue mass**
- **no medullary tumor**

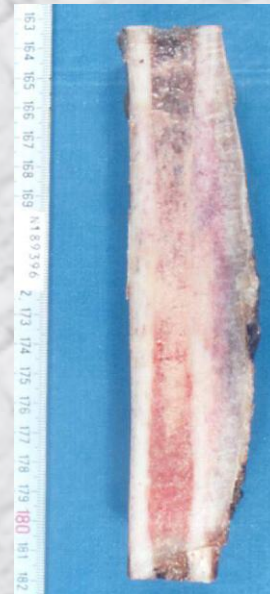
Case 6 : Boy 17 y



- NMR showing a big soft tissue mass (10-8 cms)
- no medullary involvement

The two first patients were not recognized as PES : case 1

They were treated by wide resection interrupting the femoral continuity and skeletal reconstruction using massive prostheses.



the two first patients were not recognized as PES (case 2)

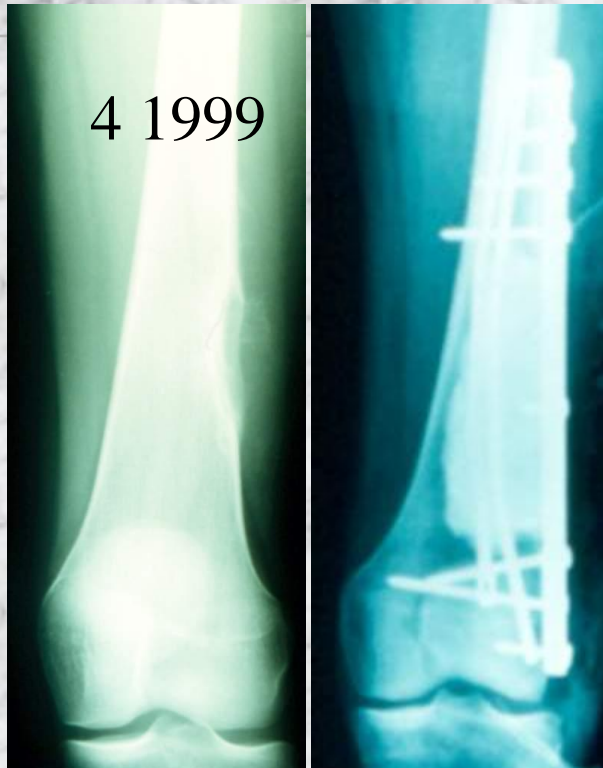
Both have still their prostheses but the orthopaedic evolution of both was complicated compelling to reoperate

One of the patients suffered of acetabular wear and loosening (3R)

the second suffered of deep infection. (6 R)



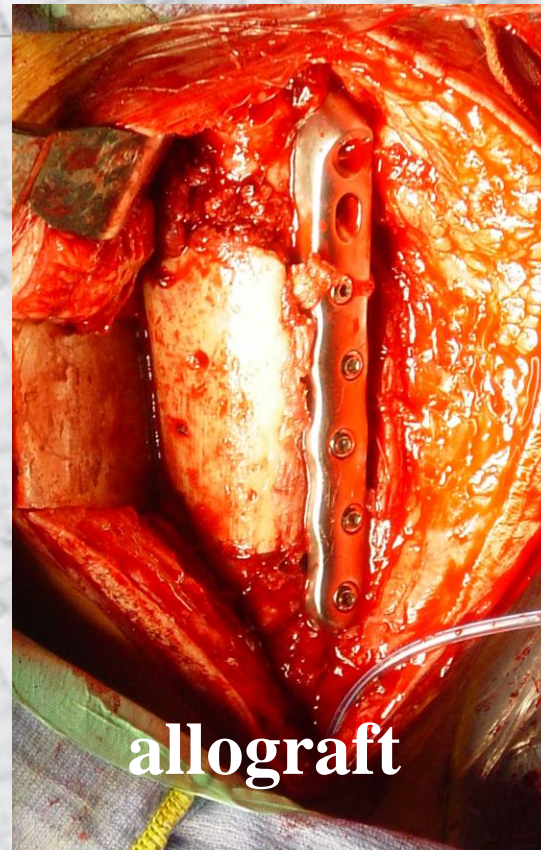
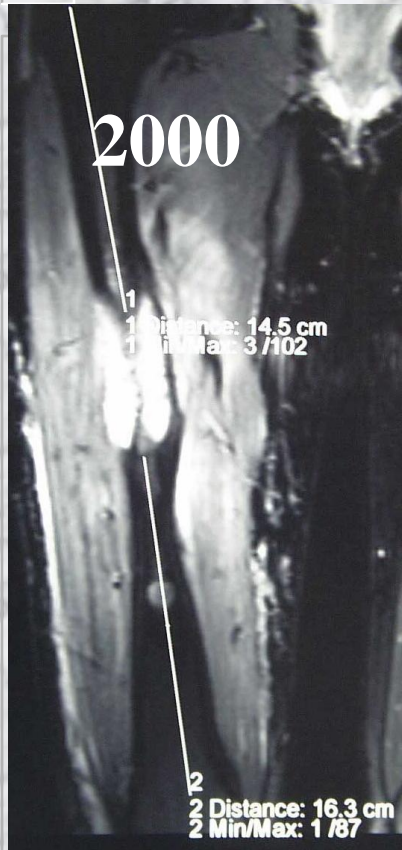
**the four other patients were diagnosed as
PES before the biopsy case 3 3**



**partial bone resection with definitive acrylic
cementation.**

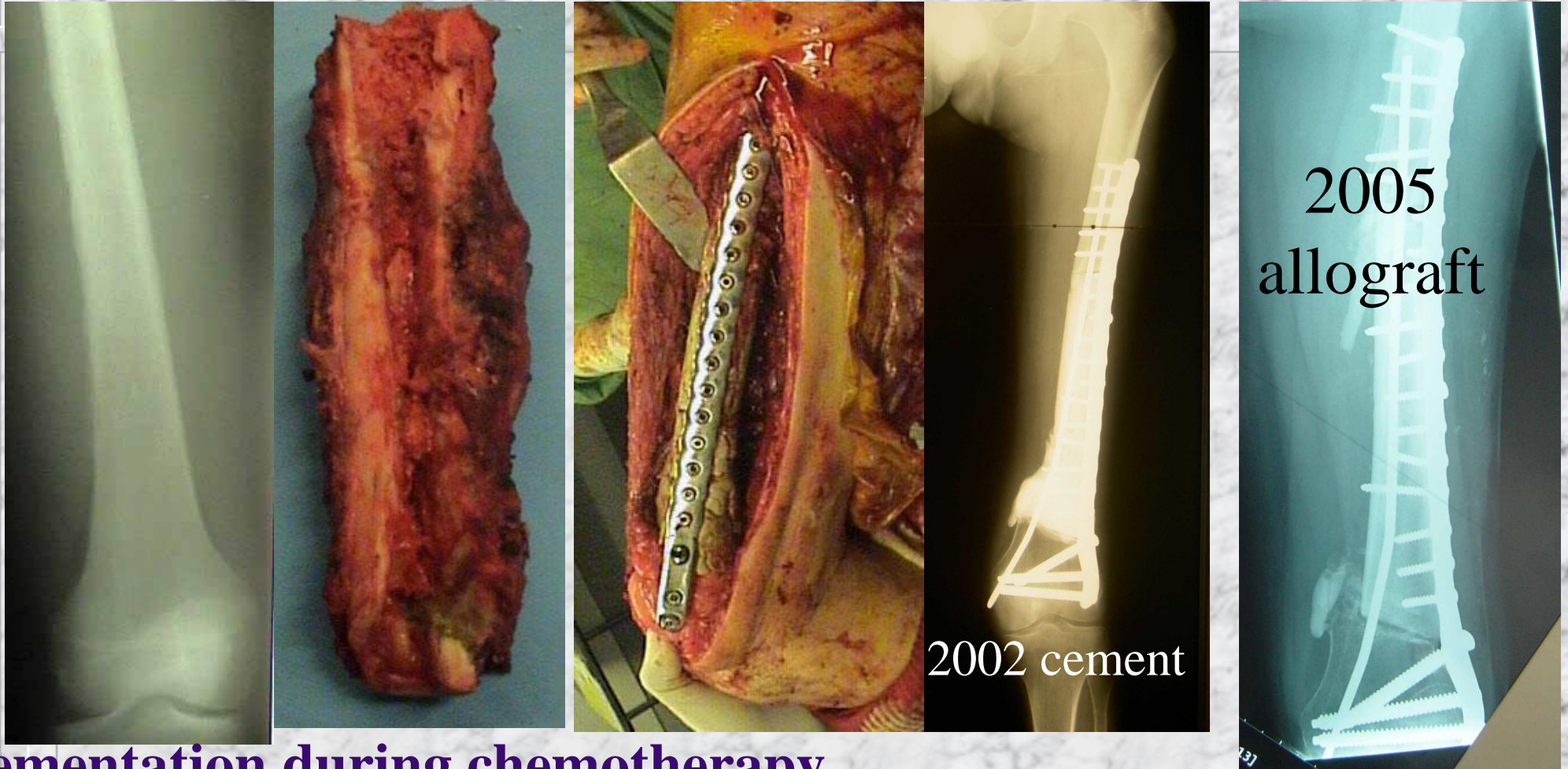
6 y follow up no reoperation excellent function

In case 4 the extension compelled us to interrupt the continuity of the diaphysis



three reoperations were necessary to achieve bone healing

the four other patients were diagnosed as PES
before the biopsy Case 5

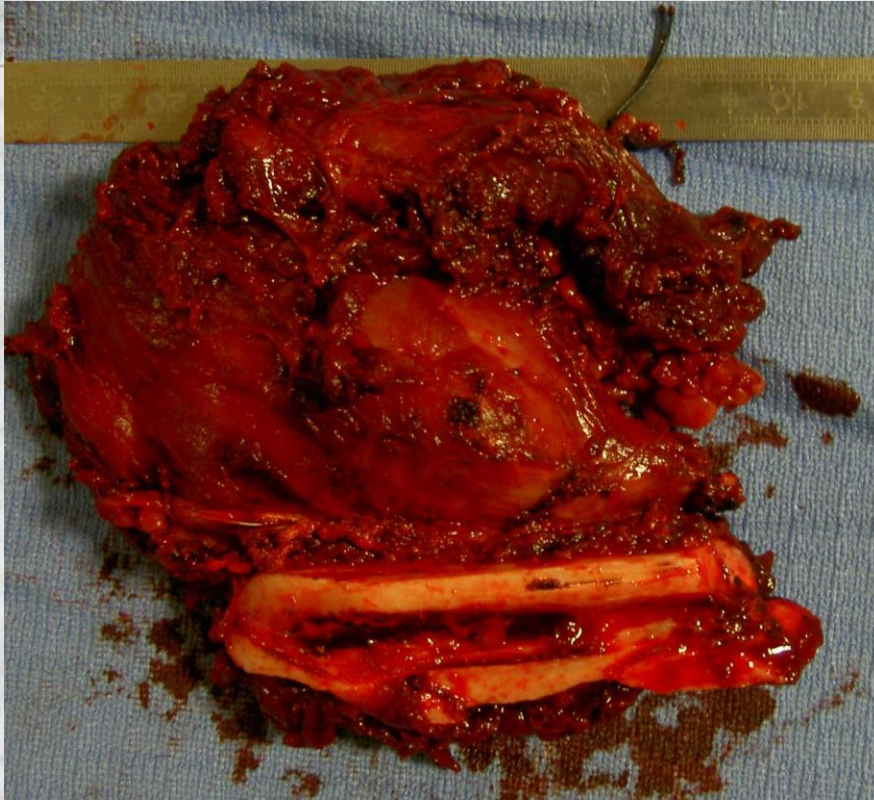


Cementation during chemotherapy

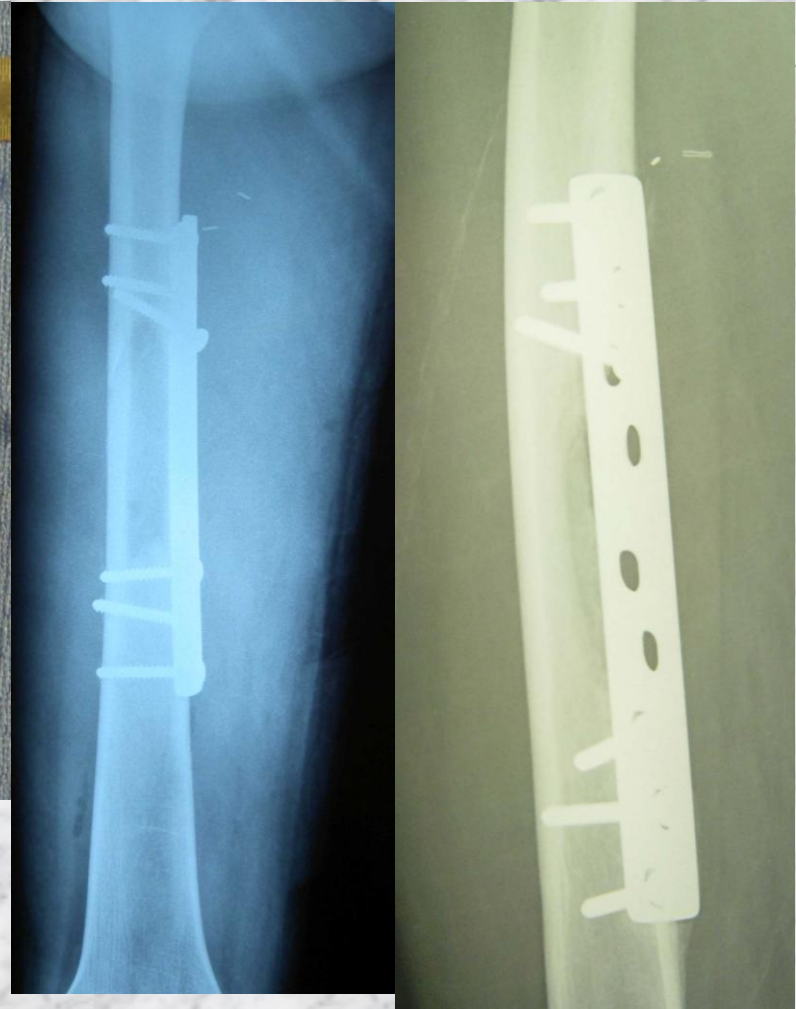
definitive reconstruction with allograft

excellent result

the four other patients were diagnosed as PES
before the biopsy **Case 6**



**Wide resection plating
excellent result**



Oncologic results

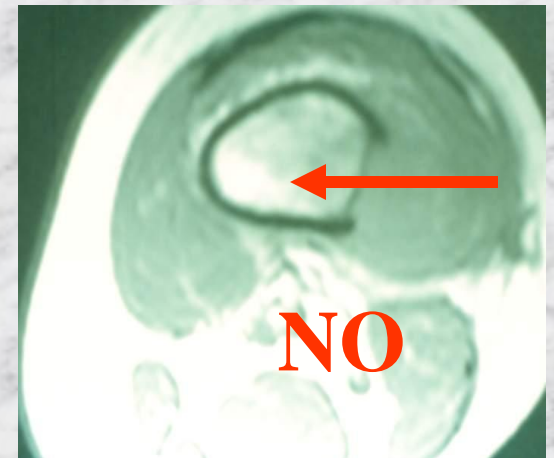
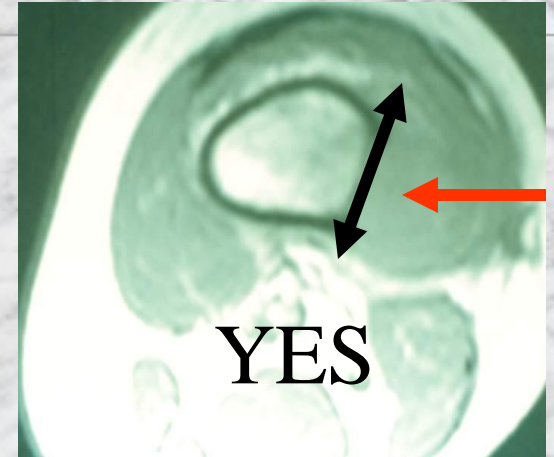
With an average follow up of 9 years
all 6 patients are even free survivors.

Comments

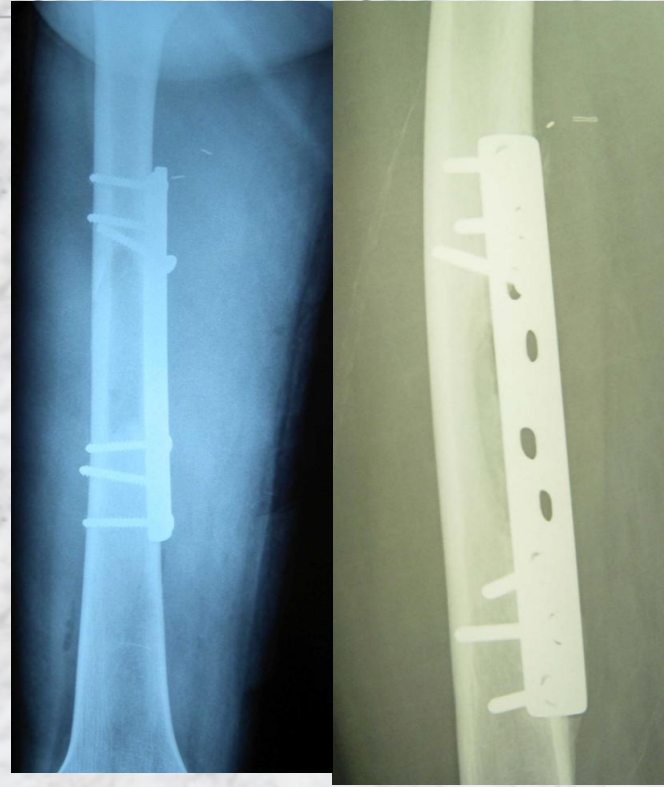
- **The prognosis of PES looks better than that of common Ewing's sarcoma even in case of big tumoral volume like cases 3, 5 and 6.**
- **In the literature 28/30 (94%) patients with PES were DFS at last consultation**
- **the better prognosis of PES should prevent inclusion of patients in too heavy chemotherapy protocols.**

surgical implications of periosteal location must be underlined : biopsy

**When the diagnosis is pre
biopsy suspected on CT
and MRI , the biopsy
should be confined to
the cortical bone or the
soft tissues without
cortical perforation
and medullar
contamination.**



The preferred treatment is partial resection without interruption of the bone continuity



such a procedure permits much easier reconstruction without massive material.