

QUISTE OSEO ANEURISMATICO

ZARAGOZA . SEAP-IAP. 2011



HGRL 601
Hospital Militar Central
“CIR. MY. Dr. COSME ARGERICH”

LABORATORIO DE
PATOLOGIA
ORTOPEDICA
BUENOS AIRES



UNIVERSIDAD DE BUENOS AIRES
FACULTAD DE MEDICINA
FACULTAD DE ODONTOLOGIA

“Aneurysmal bone cyst is a curious, solitary lesion of bone, which has been so named because typically it causes a bulging of the overlying cortex, bearing some resemblance to the saccular protrusion of the aortic wall in true aneurysm”.

“Ewing, in his first edition (1919) of Neoplastic Diseases, alludes to two lesions in bone that are probably aneurysmal bone cysts, but he classifies them as hemangiomas of bone”.

Aegerter E, Kirkpatrick JA. ORTHOPEDIC DISEASES. Saunders Company 1968

Solitary unicameral bone cyst, with emphasis on the roentgen picture, the pathologic appearance and the pathogenesis.

Jaffe HL, Lichtenstein L

Arch Surg 44: 1004-1025

1942

“Aneurysmal bone cyst”

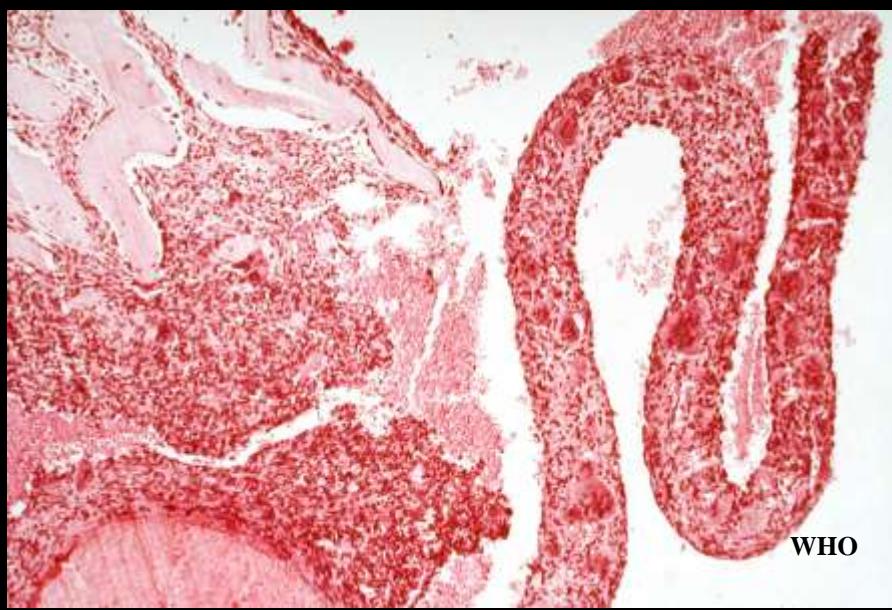
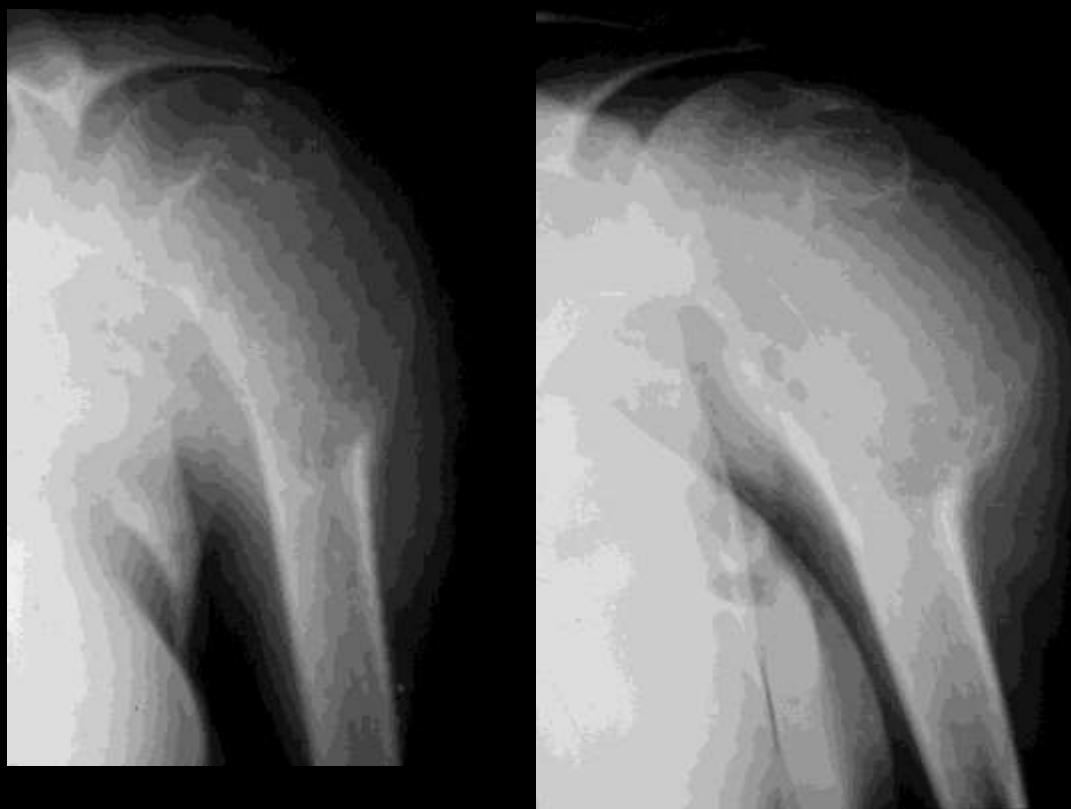
**Aneurysmal bone cyst
Jaffe HL
Bull Hosp Joint Dis
11: 3-13
1950**

**Aneurysmal bone cyst. A pathological entity commonly
mistaken for giant cell tumor and occasionally for
hemangioma and osteogenic sarcoma**

**Lichtenstein L
Cancer 3: 279-289.
1950**

ABC

Lesión solitaria, no neoplásica, metafisarial, excéntrica, rápidamente expansiva, lítica, de etiología desconocida más comúnmente en un paciente de 2a década.



El quiste está lleno de sangre con paredes compuestas por elementos fusocelulares, osteoide y células gigantes.

Aneurysmal Bone Cyst. A review of 123 cases including primary lesions and those secondary to other bone pathology

Martinez V, Sissons HA

Cancer. 61: 291-304.

1988

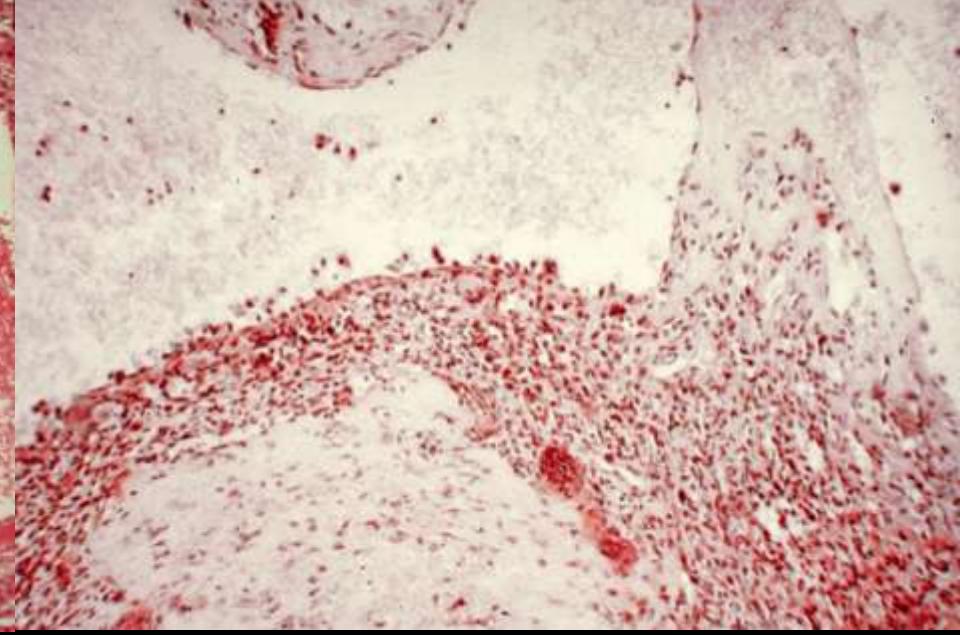
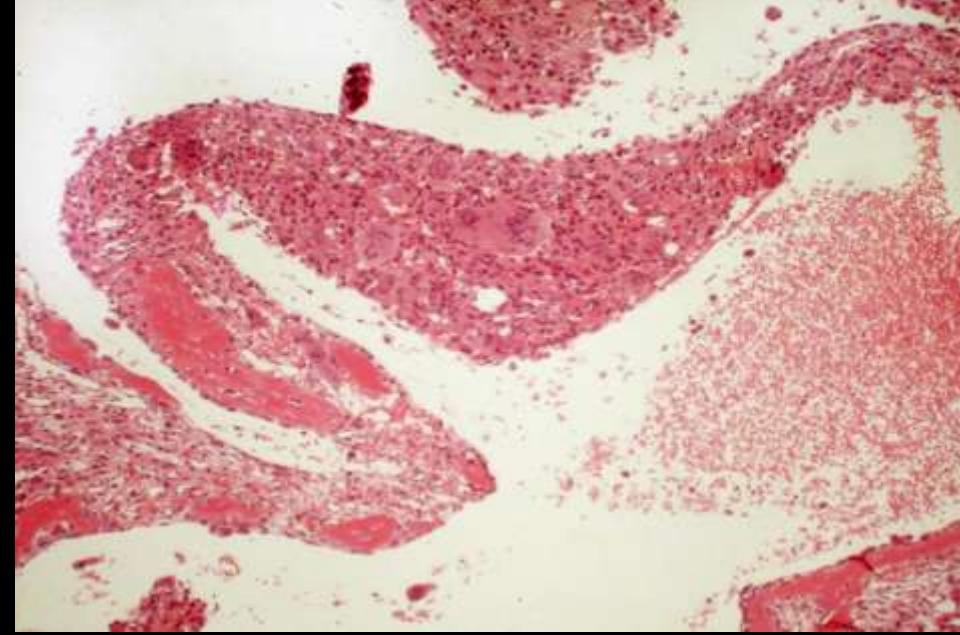
- Primary 72%
- Secondary 28%

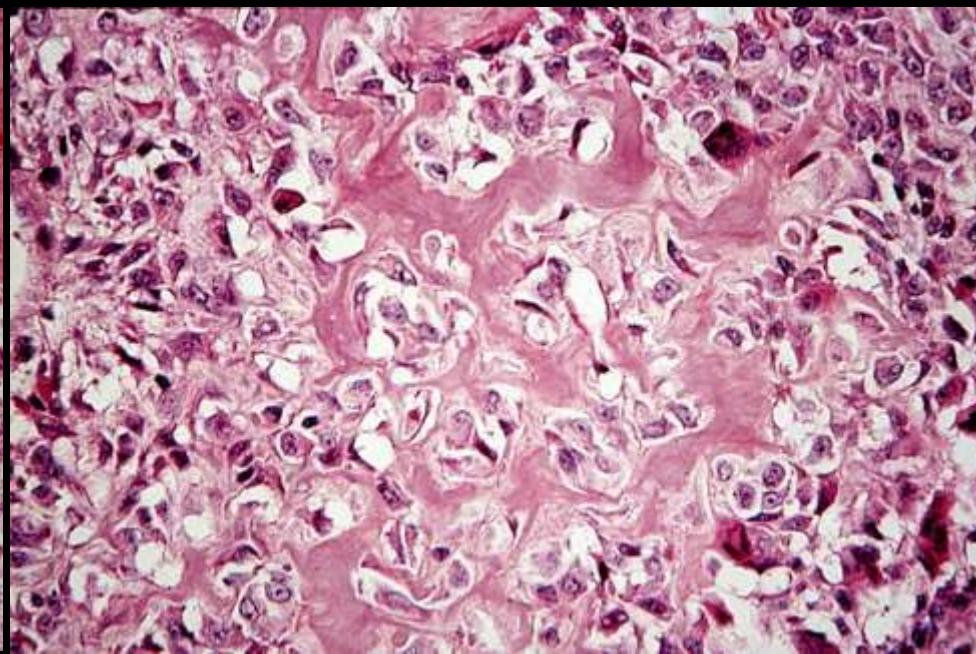
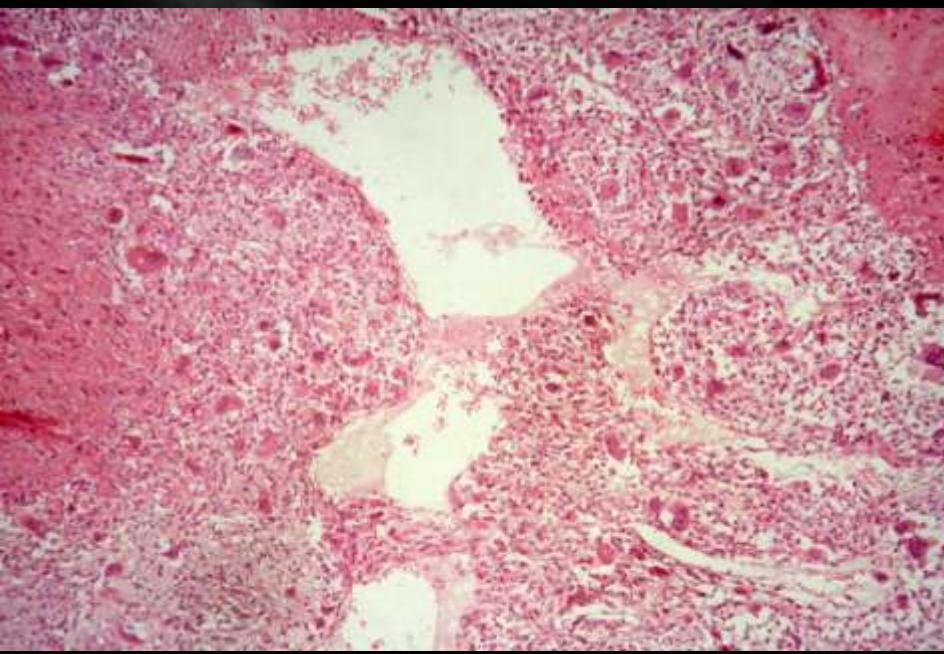
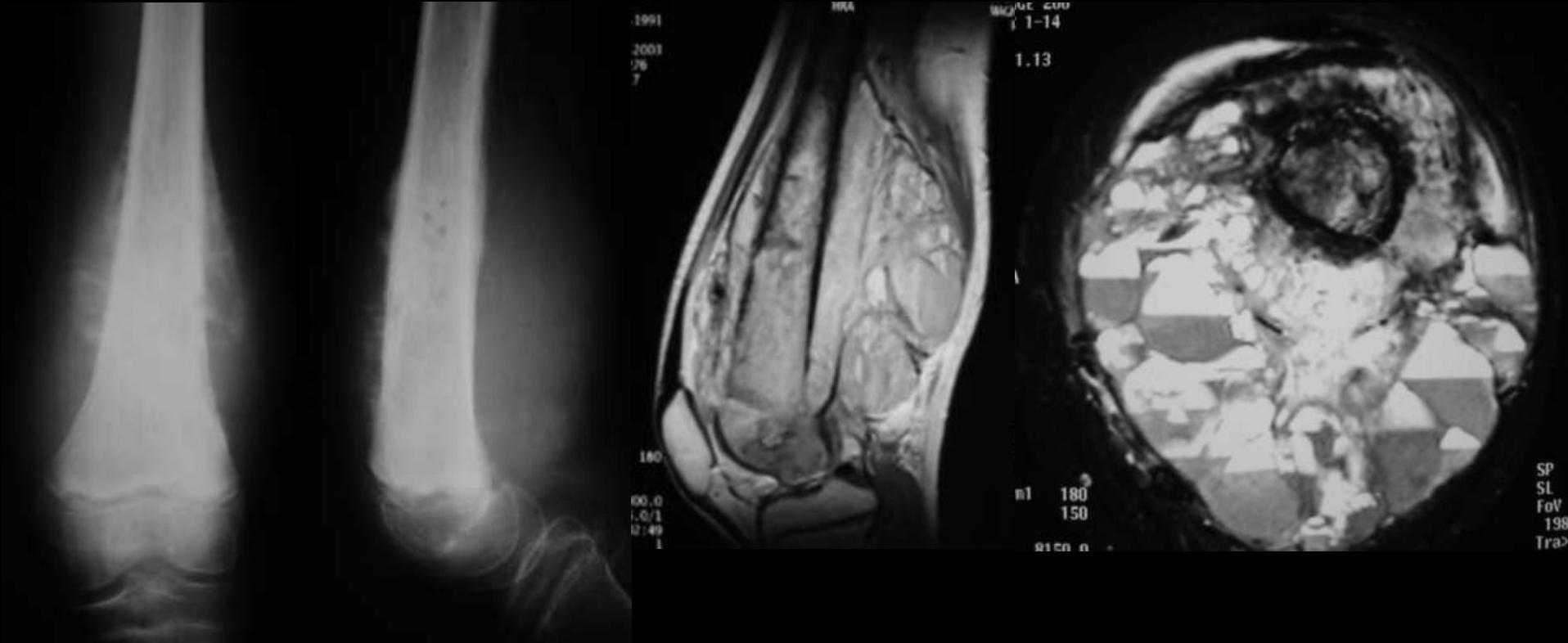
Bone Tumors

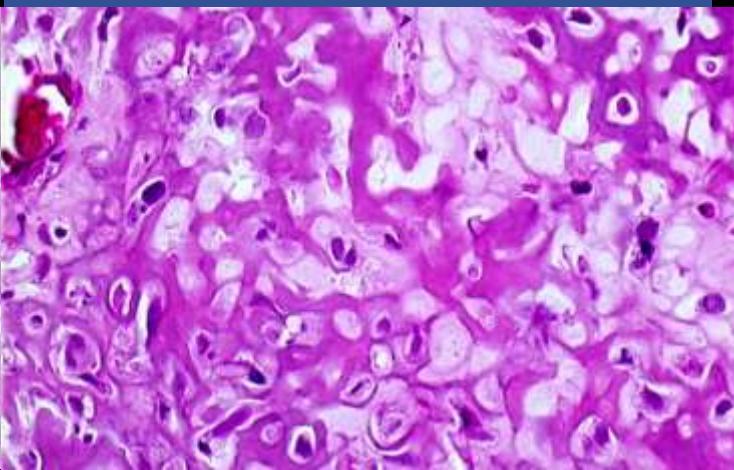
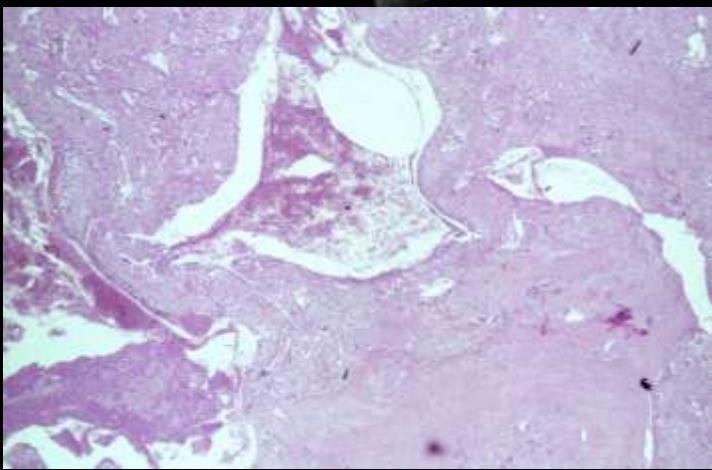
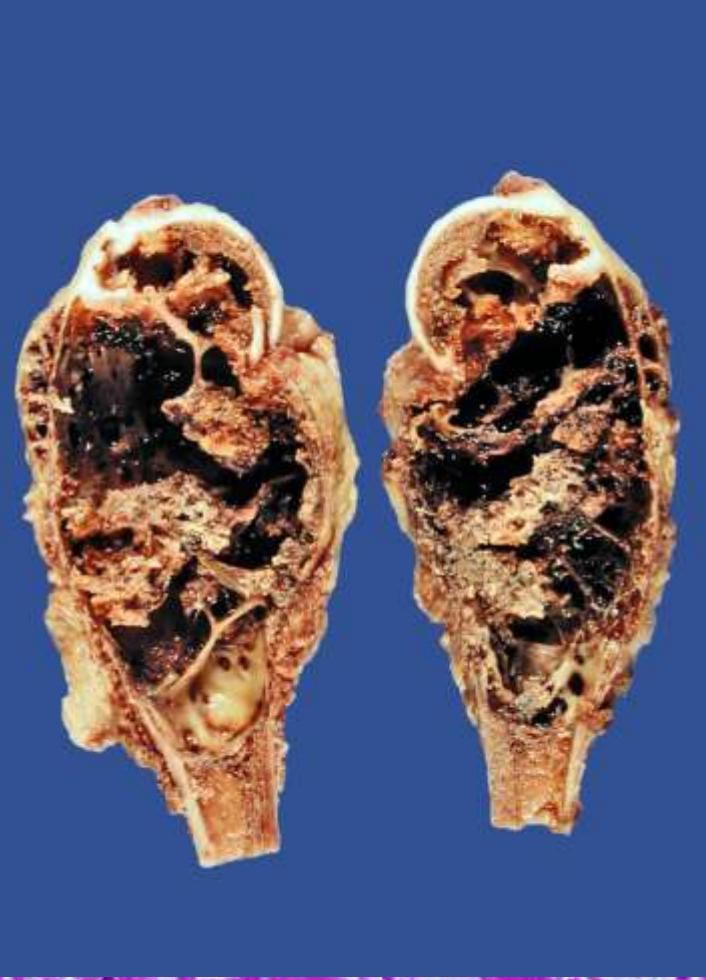
Dorfman HD, Czerniak B. Mosby
1997.

Table 15-1. Precursor conditions for secondary aneurysmal bone cyst

Giant-cell tumor	Eosinophilic granuloma
Chondroblastoma	Hemangioma
Osteoblastoma	Myositis ossificans
Nonossifying fibroma	Osteosarcoma
Fibrous dysplasia	Malignant fibrous histiocytoma
Giant-cell reparative granuloma	Metastatic carcinoma
Chondromyxoid fibroma	Miscellaneous lesions containing rich vascular network
Fibrous histiocytoma	(hamartoma)
Solitary bone cyst	

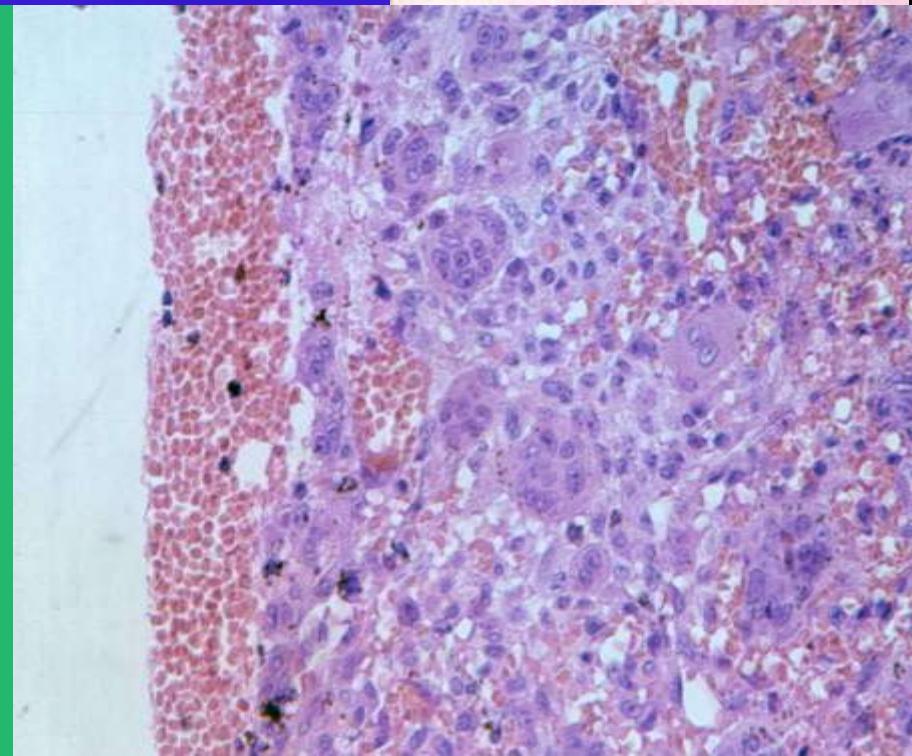
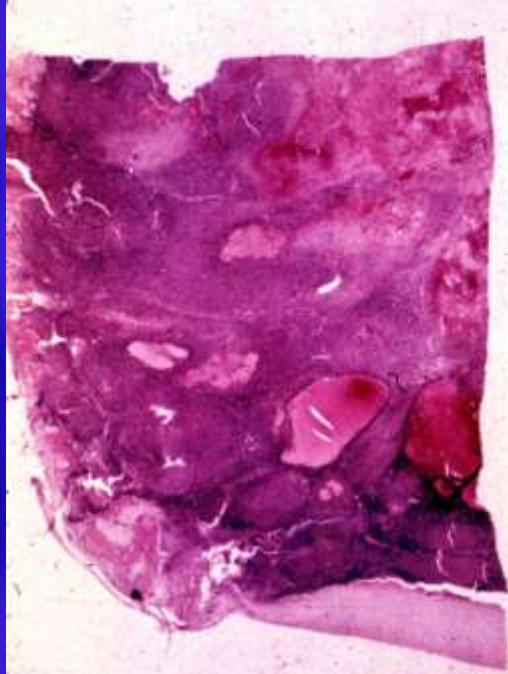
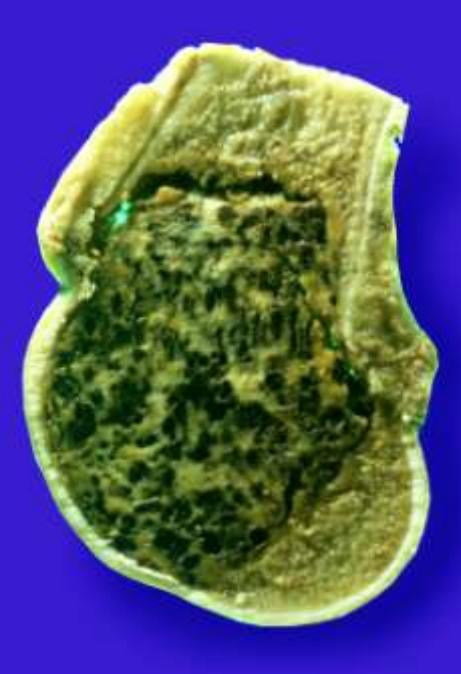
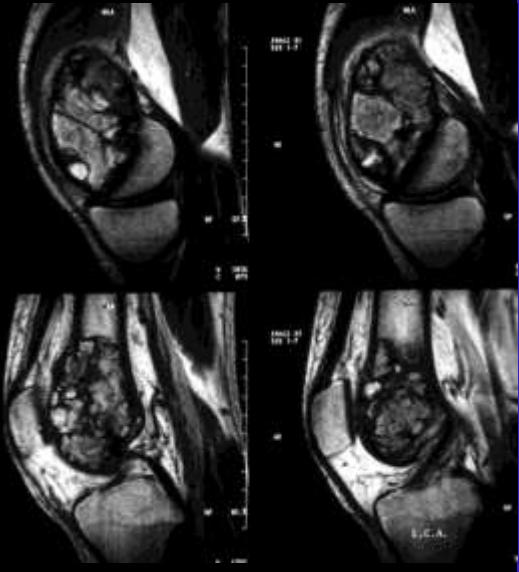




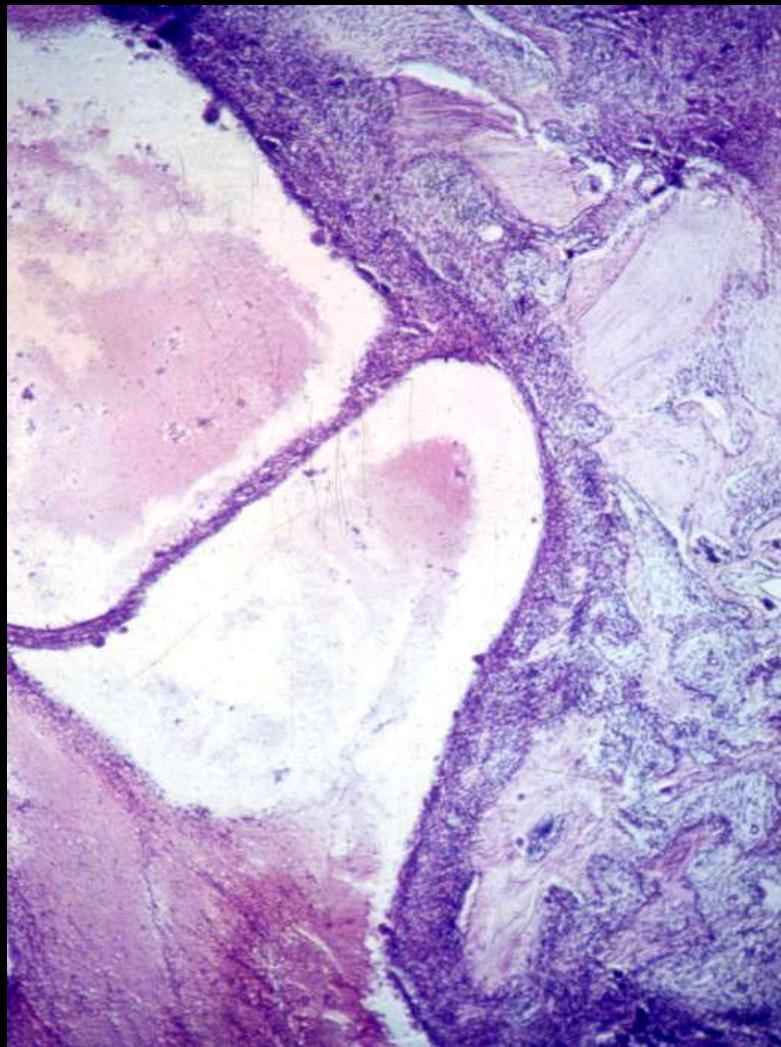
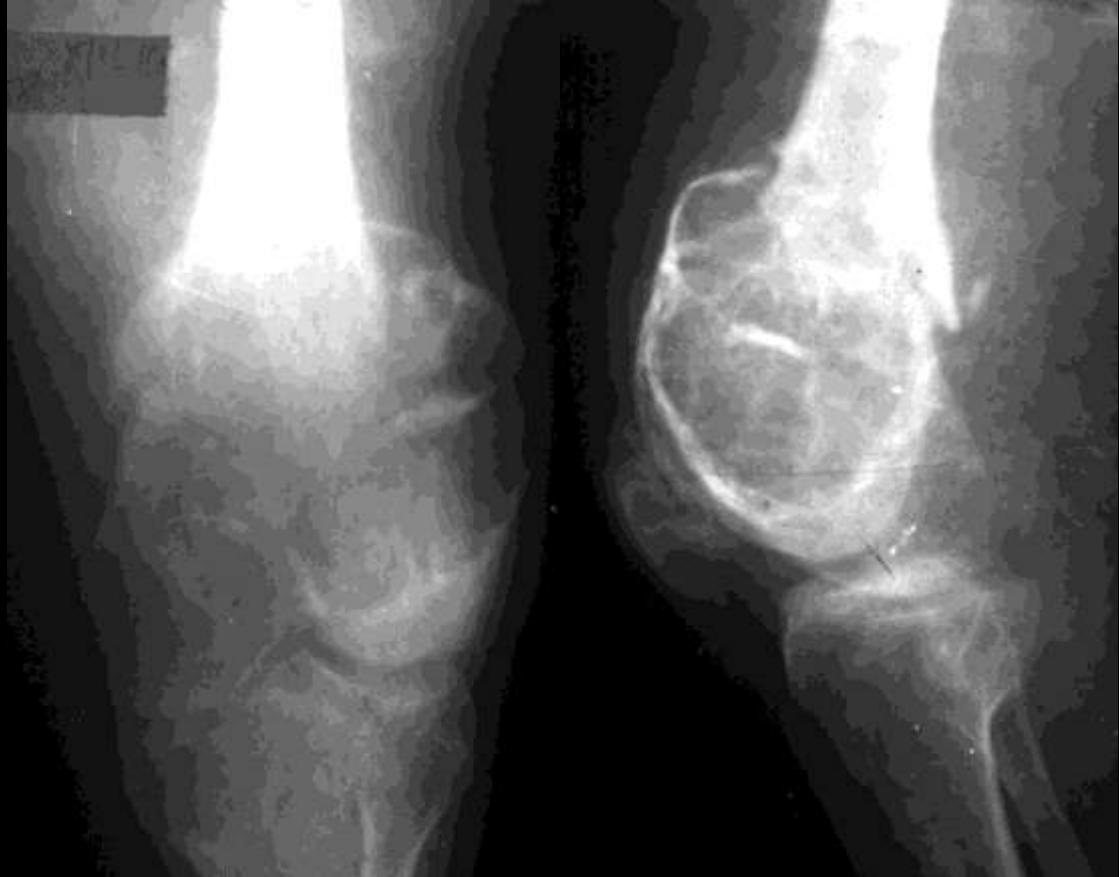




- 2rio ABC, componente mínimo



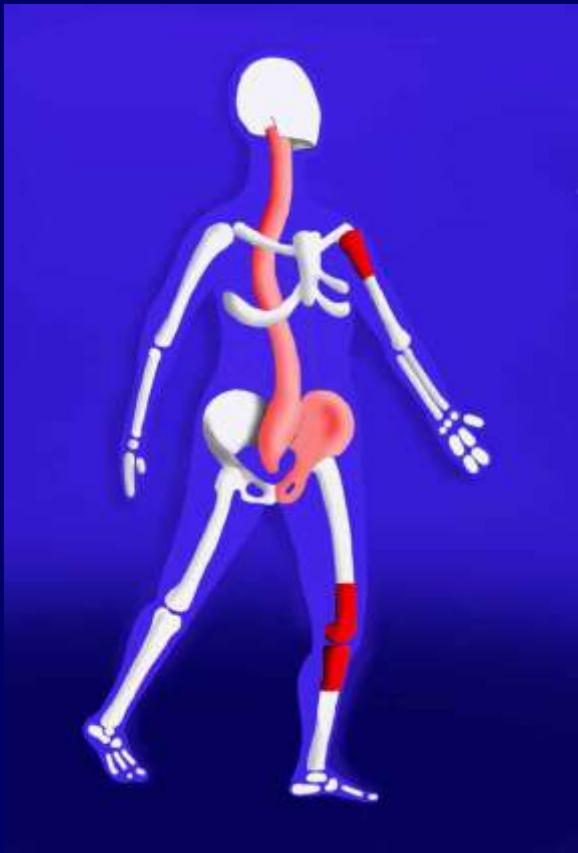
- 2rio ABC, predominantemente quístico.



ABC

- 1986-2007 -

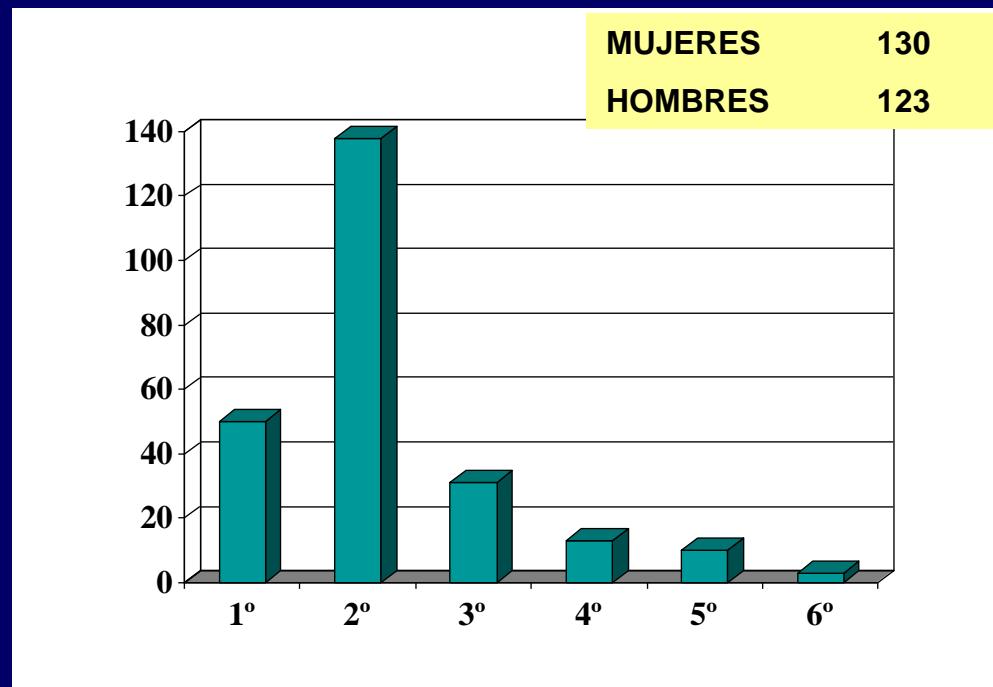
253 pacientes



Localizaciones

Total: 253 pacientes

Numero de casos



Edad en décadas

Femur	48	Fibula	17
Tibia	39	Radius	8
Humerus	28	Others	61
Ilium	28	Unknown	2
Vertebra	22		

ABC

CARACTERES CLINICOS

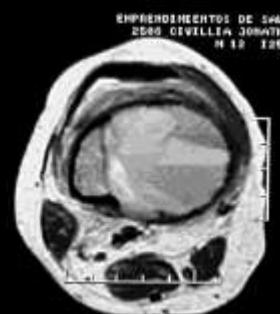
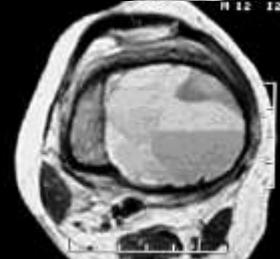
- dolor
- tumefacción
- en vértebra

parestesias

entumecimiento

de extremidades

Caracteres radiográficos



2566 CIVILLIA JONATHAN
M 12 I2566

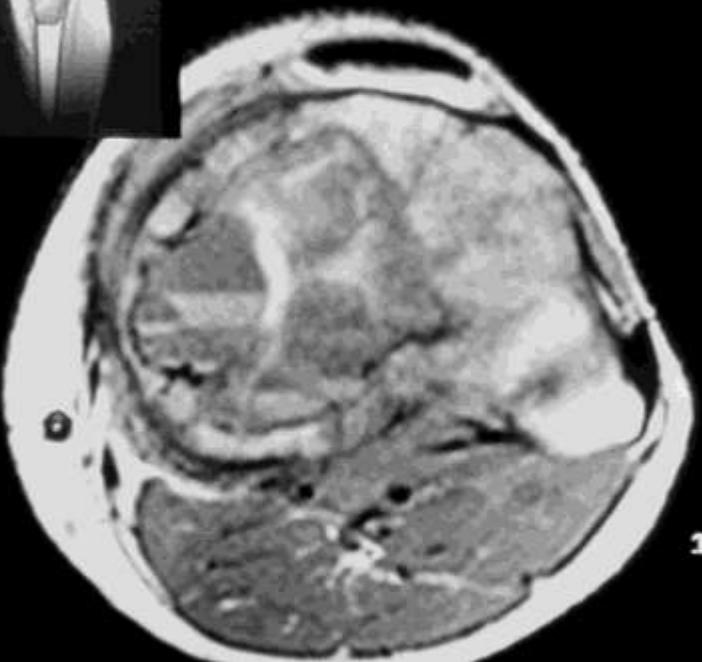
2566 CIVILLIA JONATHAN
M 12 I2566

EMPRENDIMIENTOS DE SALUD
2566 CIVILLIA JONATHAN
M 12 I2666

EMPRENDIMIENTOS DE SALUD
2566 CIVILLIA JONATHAN
M 12 I2666



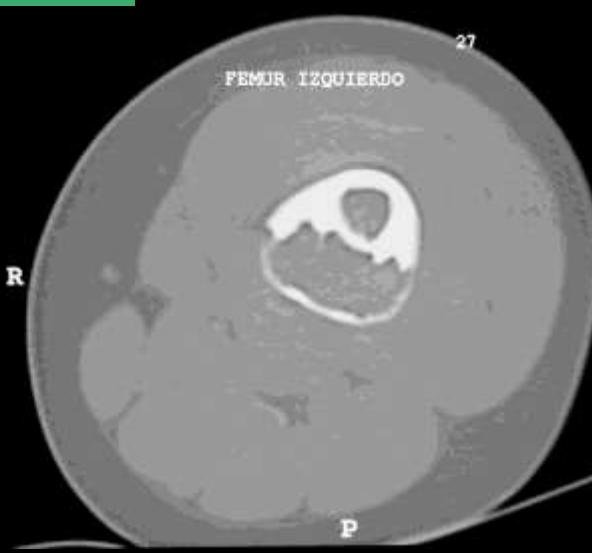
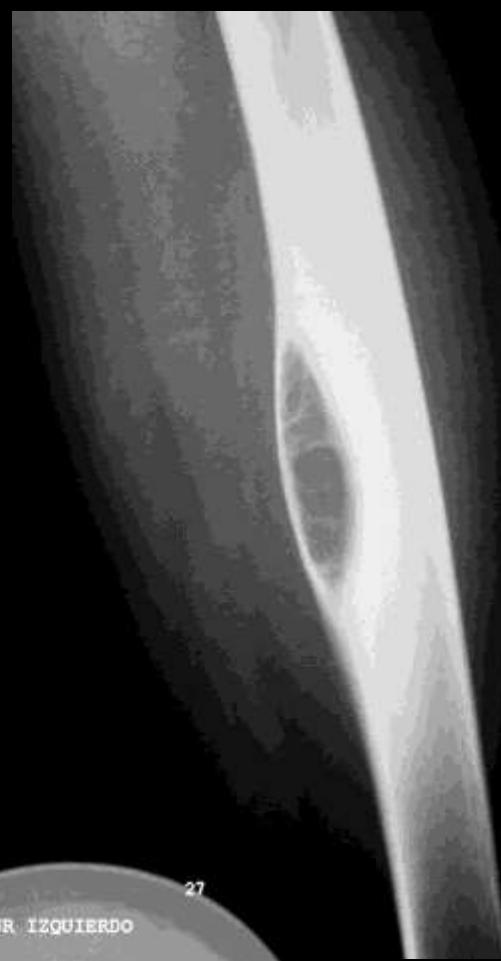
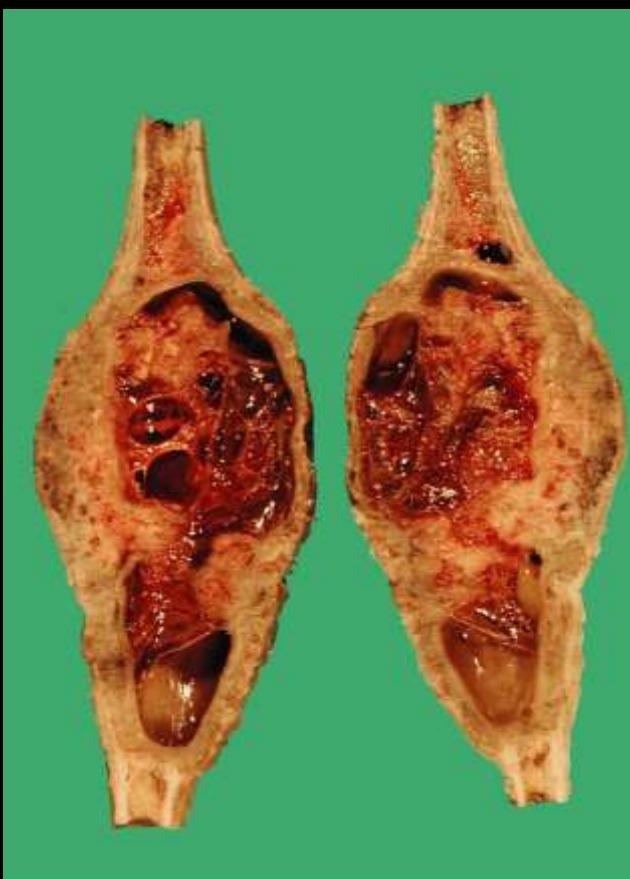
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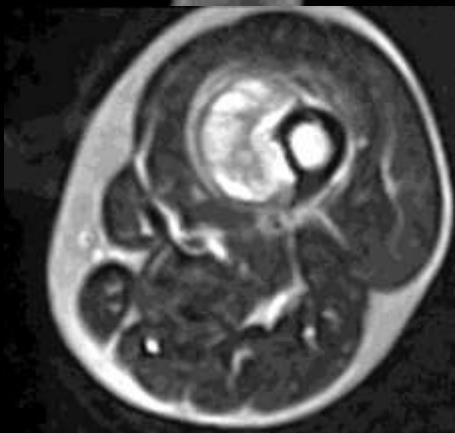
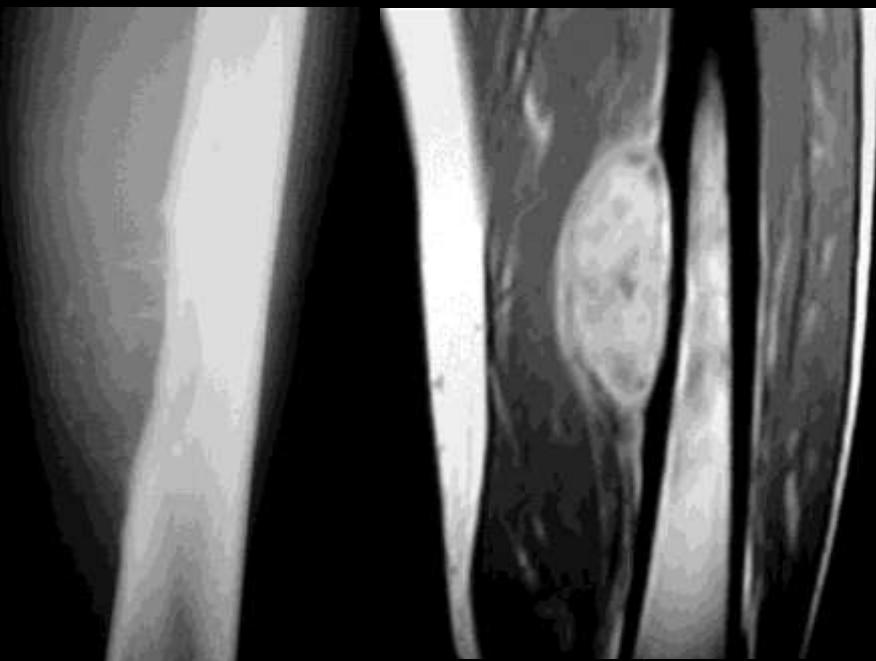
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SE MS
0700
020

192D
2A
S15
6.0



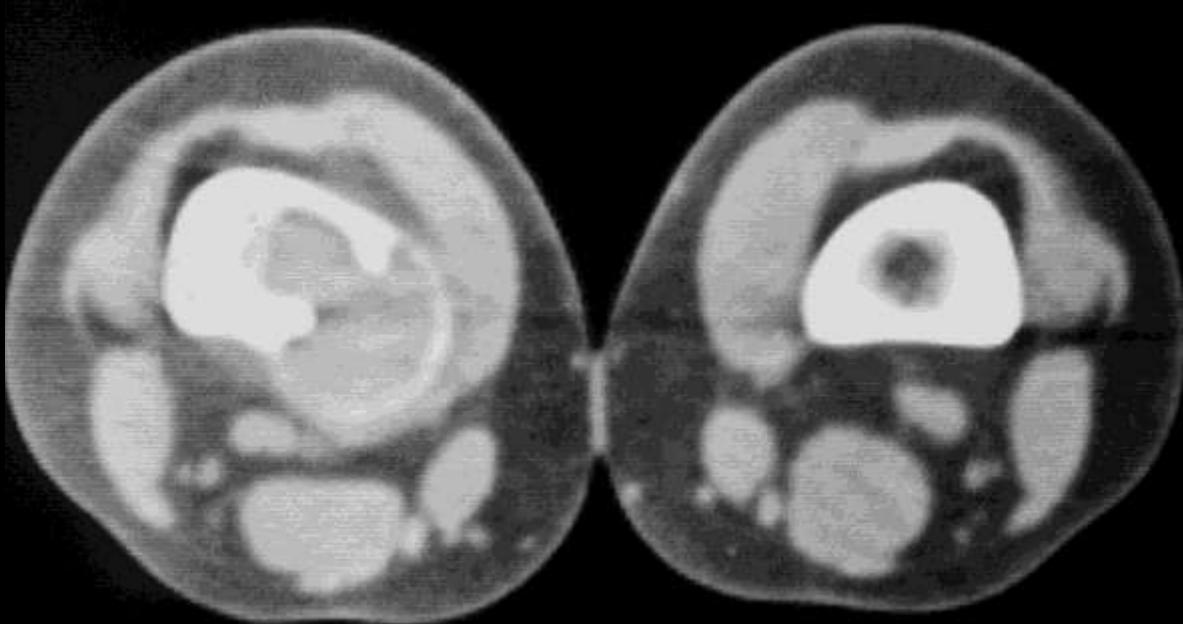


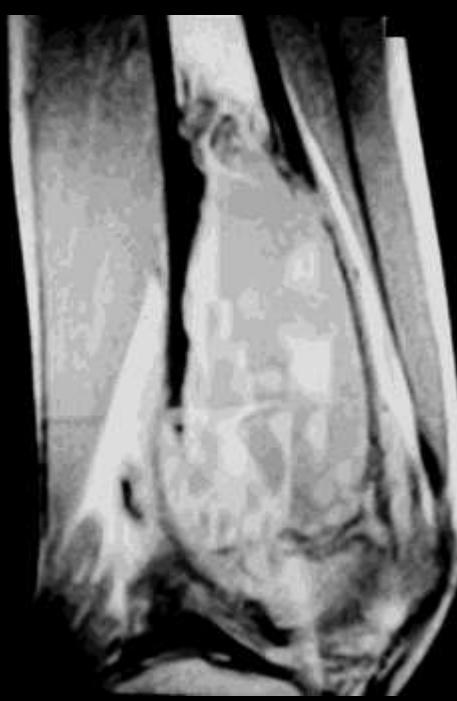
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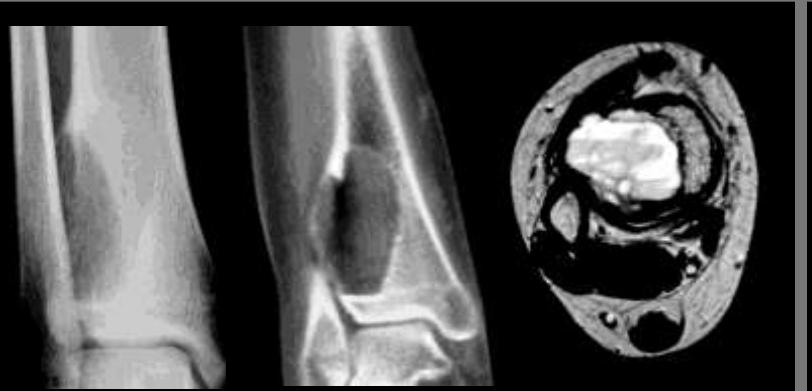
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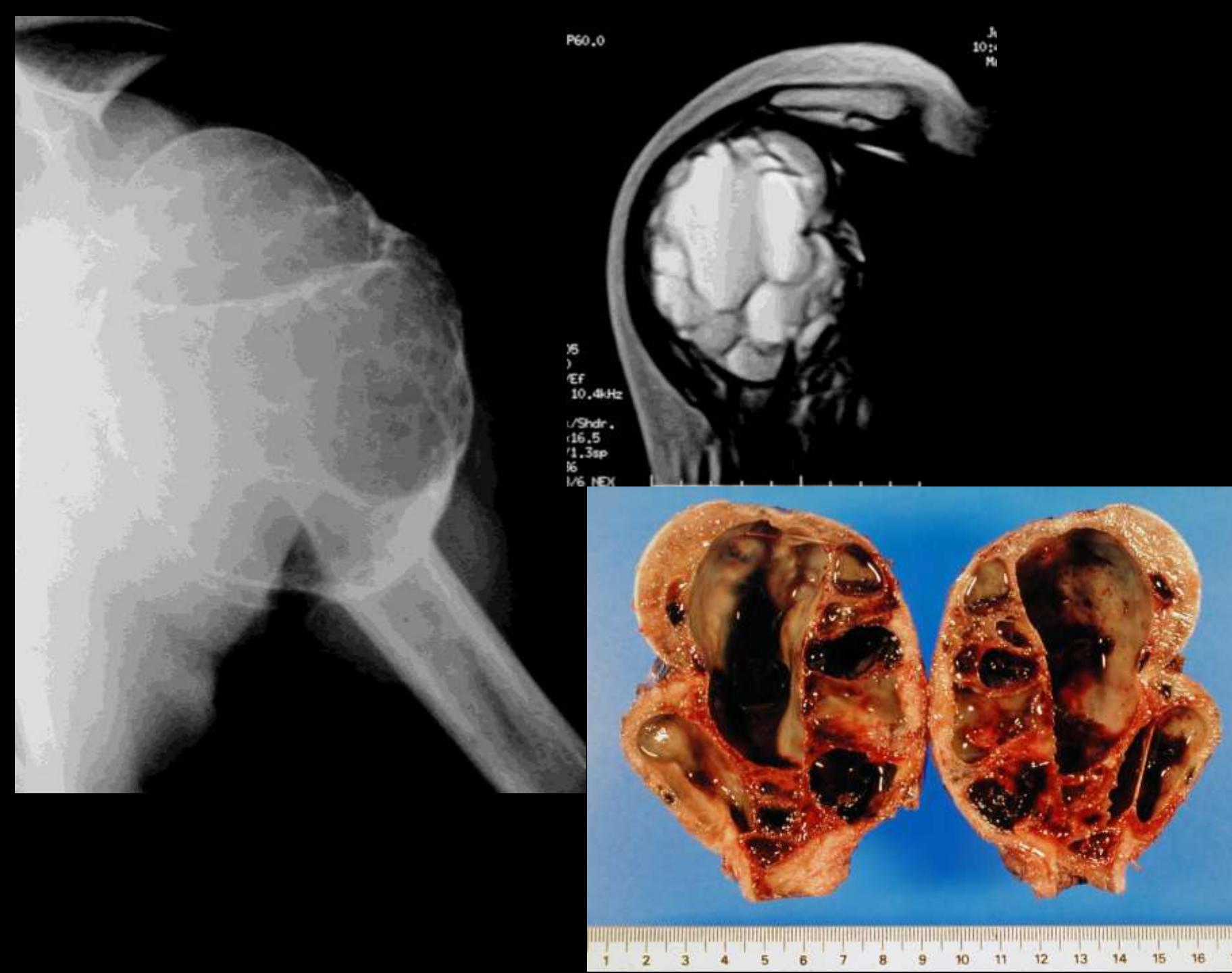


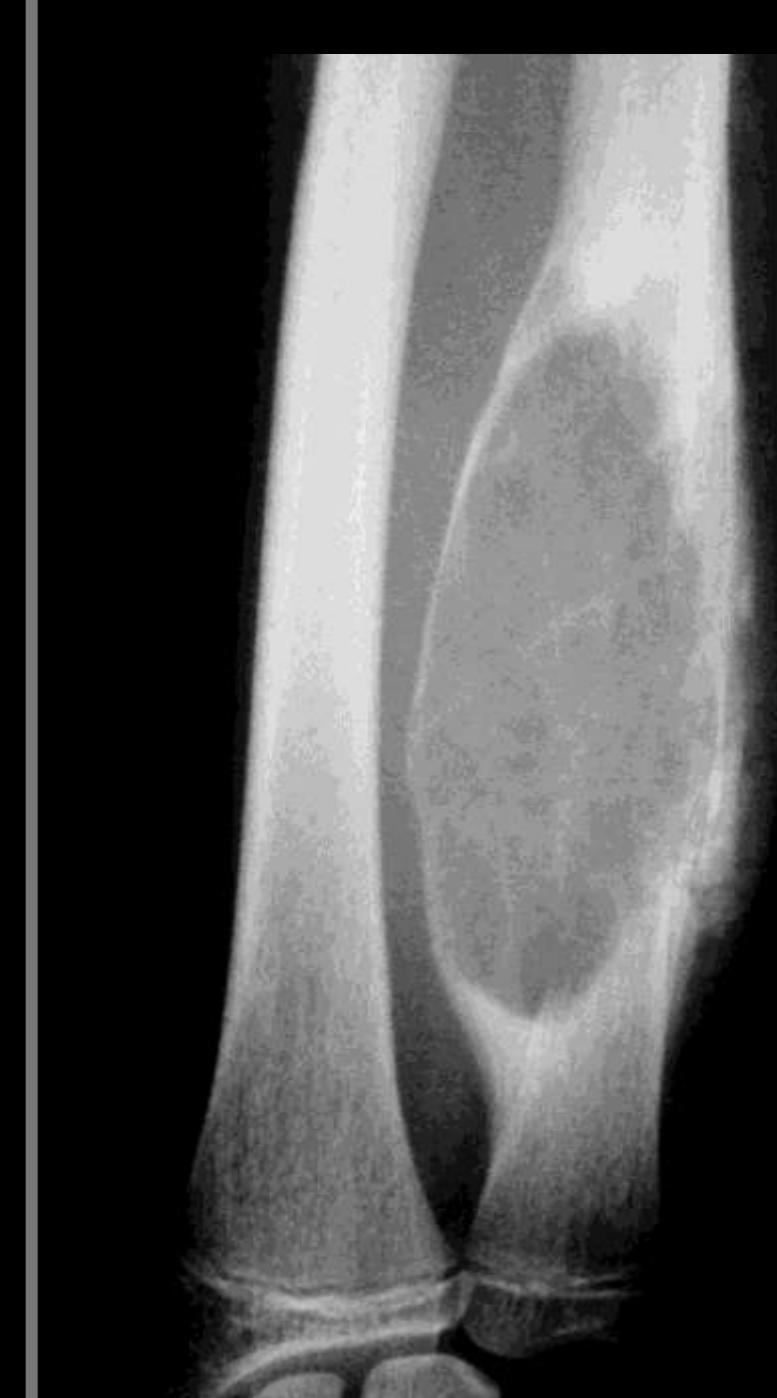


F-SP
+SP
SL
L







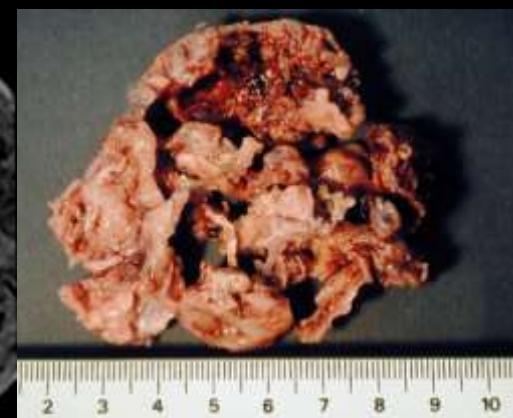
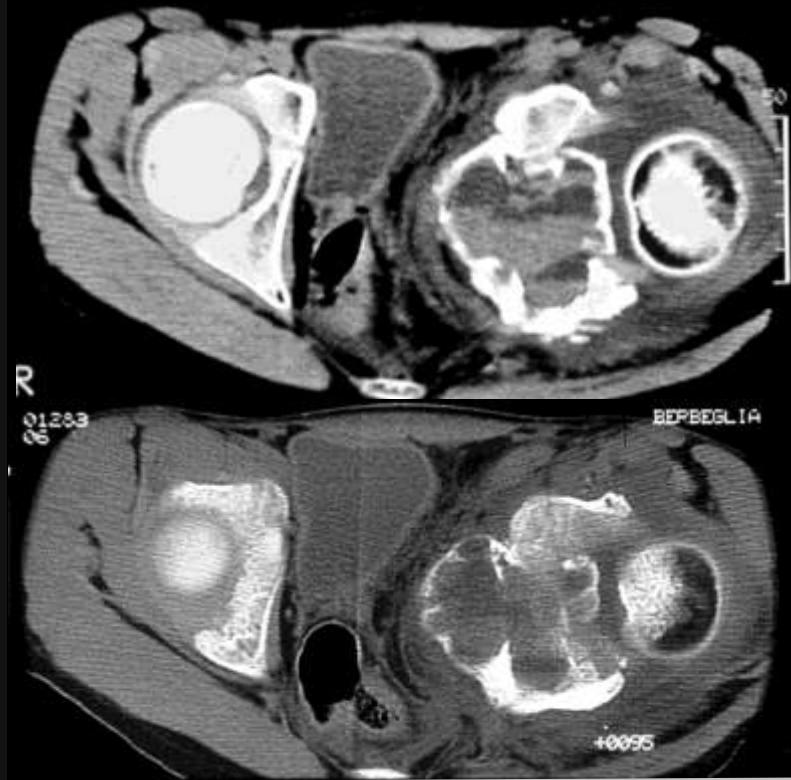


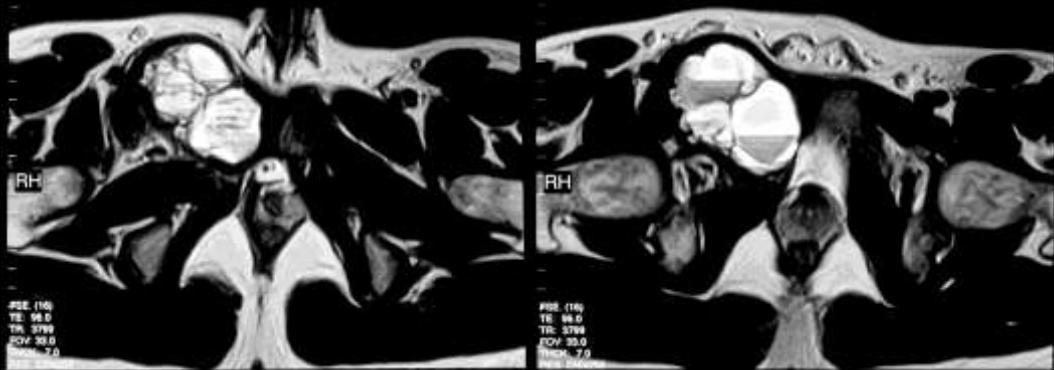


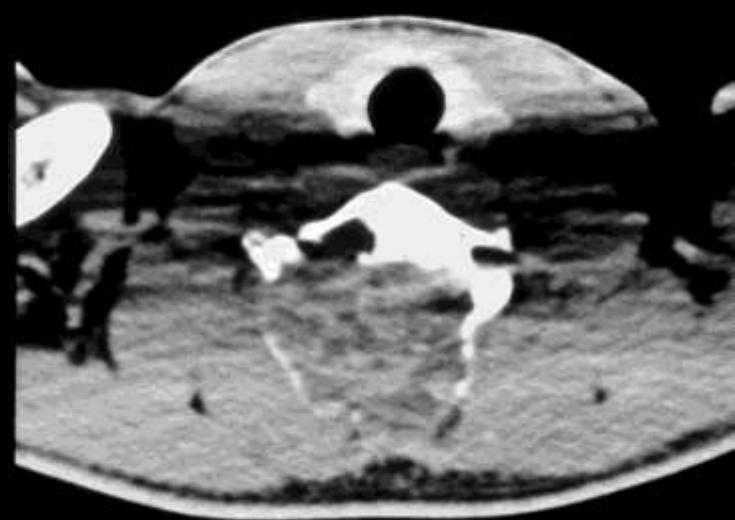
PL: 197 mm
RL: 163 mm











C. CERVICAL



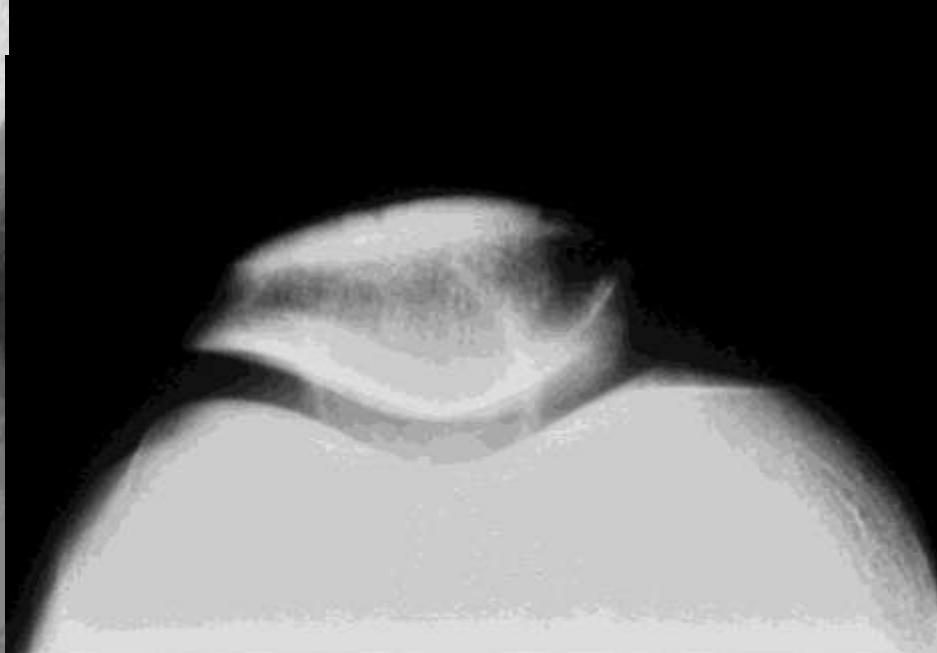
S.134/5/84+C

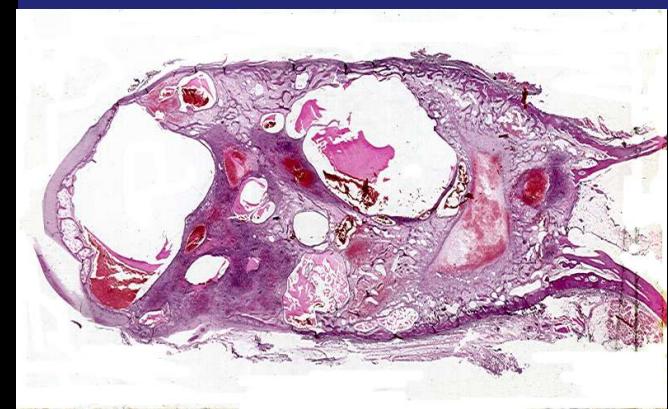
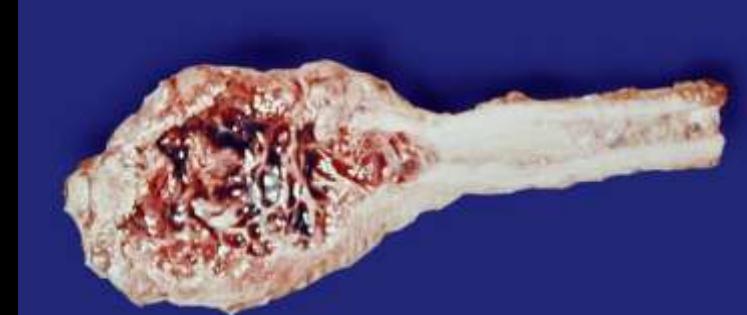
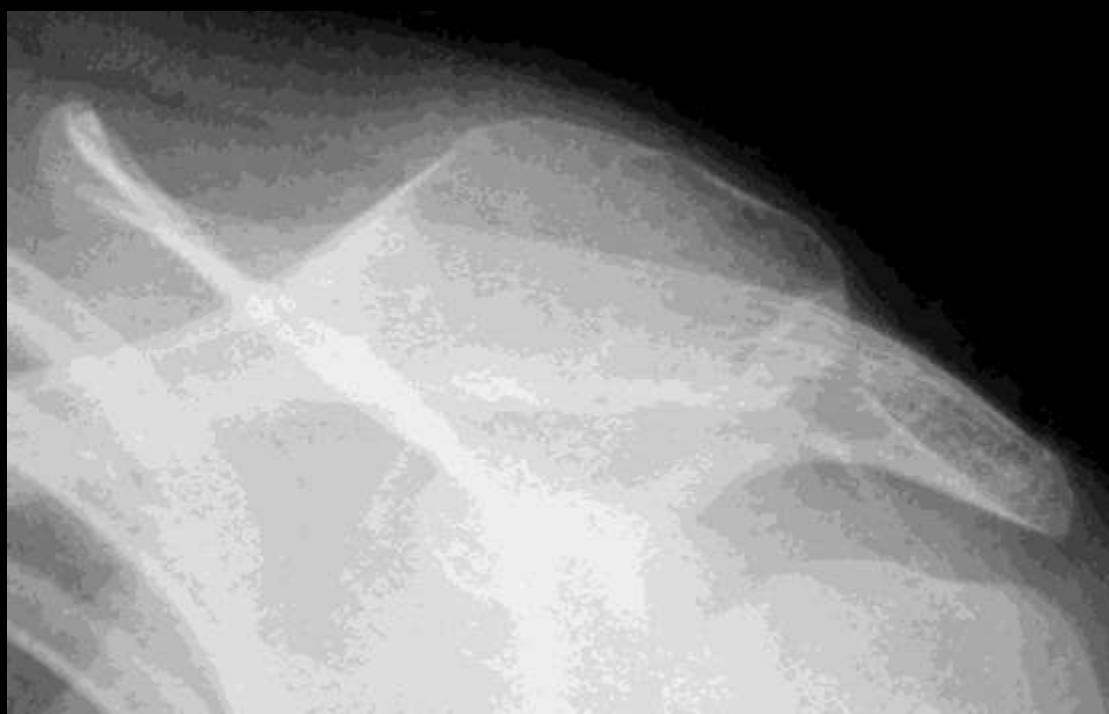
BAC

S 8
T 5
V 125
D 57
G 0 C. LUMBO-SACRA
P 20 + METRIZAMIDA









L = 267

0.5T SYS#MRS10C0

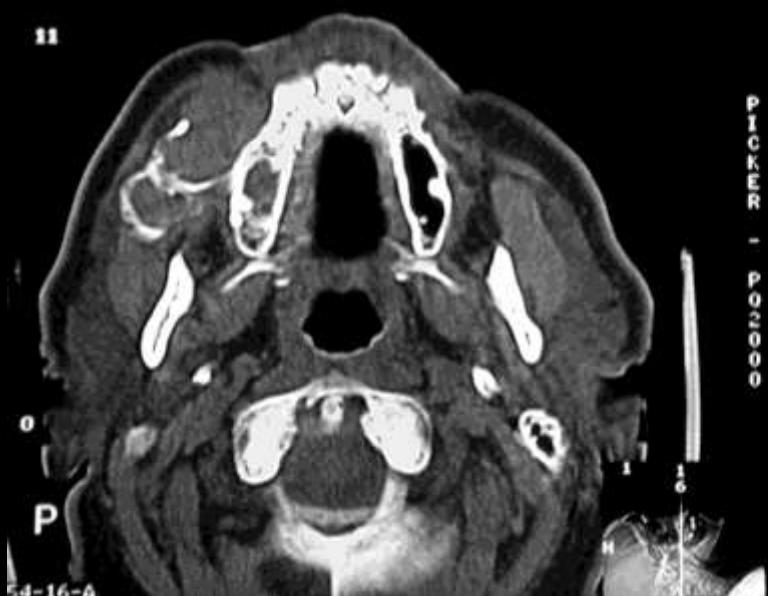
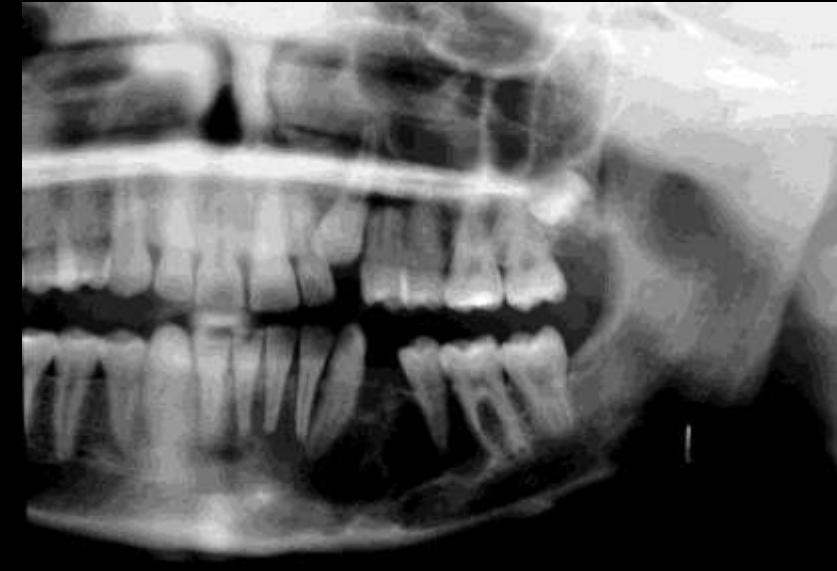
5
5
1.2

Diag. por Imagenes Dr. Deragopian
LAORCA, GERMAN. (TORAX)
S141
24 X 6935
21/02/97
19:24
MF: 1.2



lx I6.4

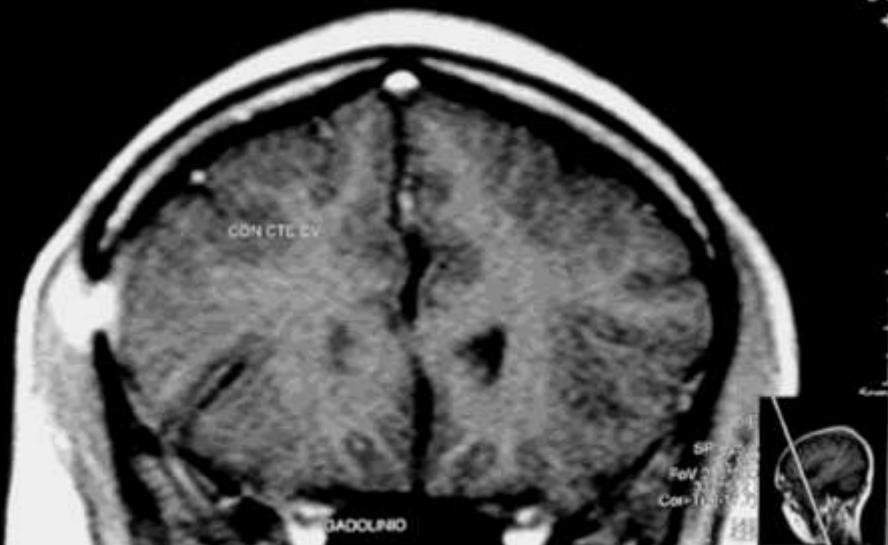






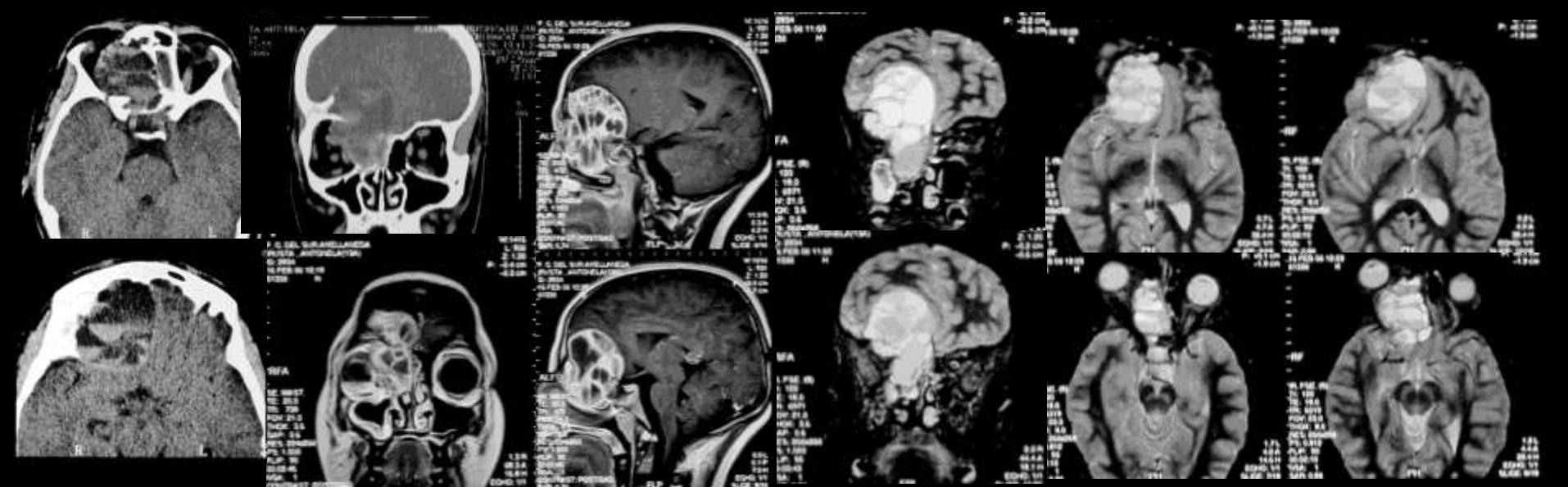
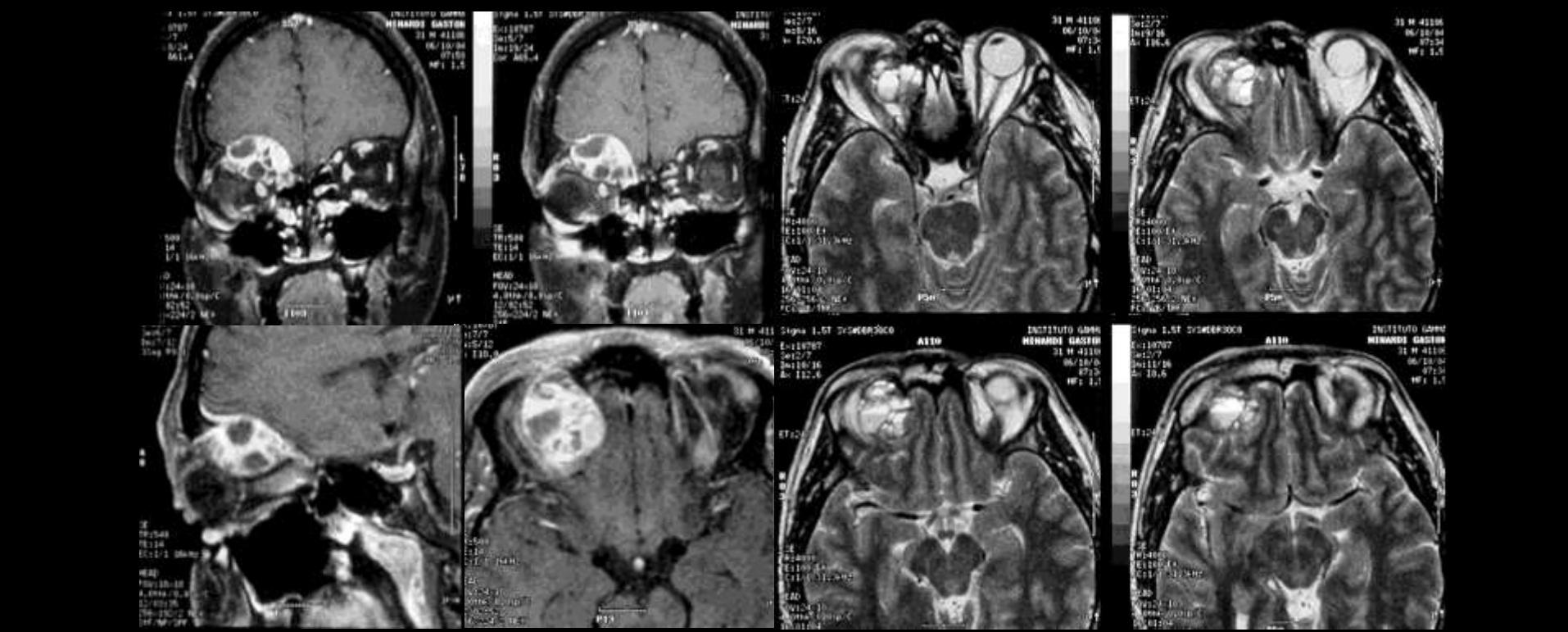
F. 18Y

R



MR 200605
HUS
LHM

+



Diagnósticos Diferenciales Radiográficos

- Quiste óseo simple



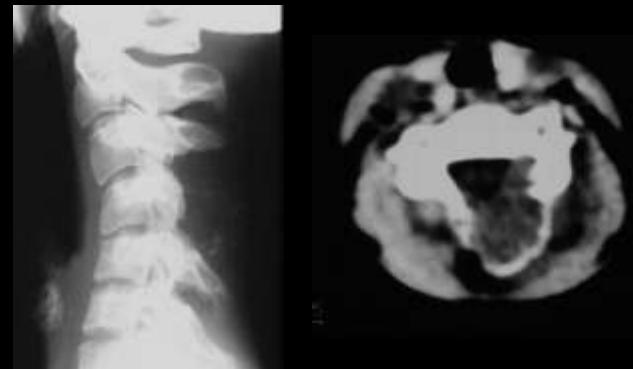
- Osteosarcoma telangiectásico



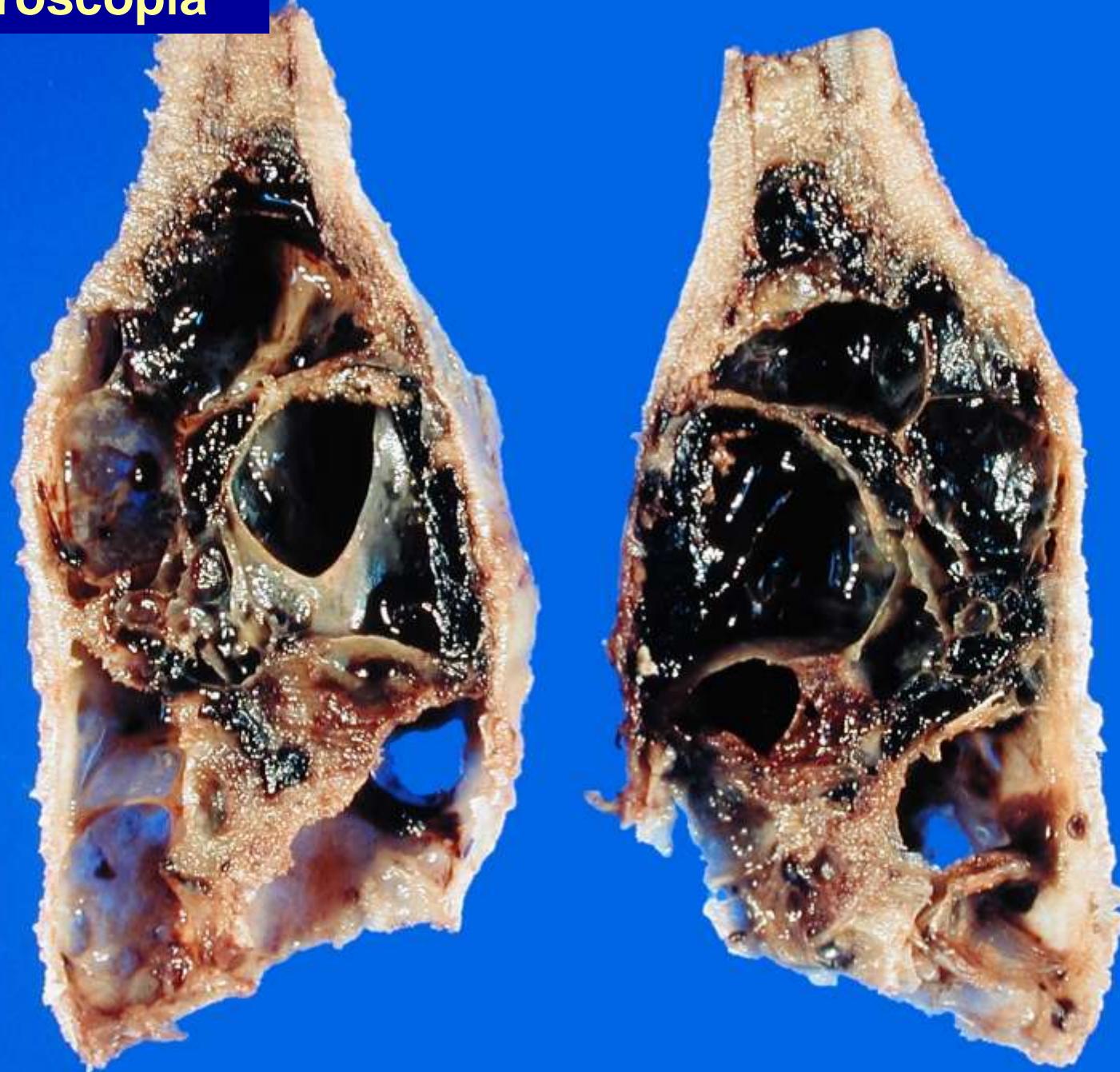
- Tumor de células gigantes



- Osteoblastoma (en vértebra)



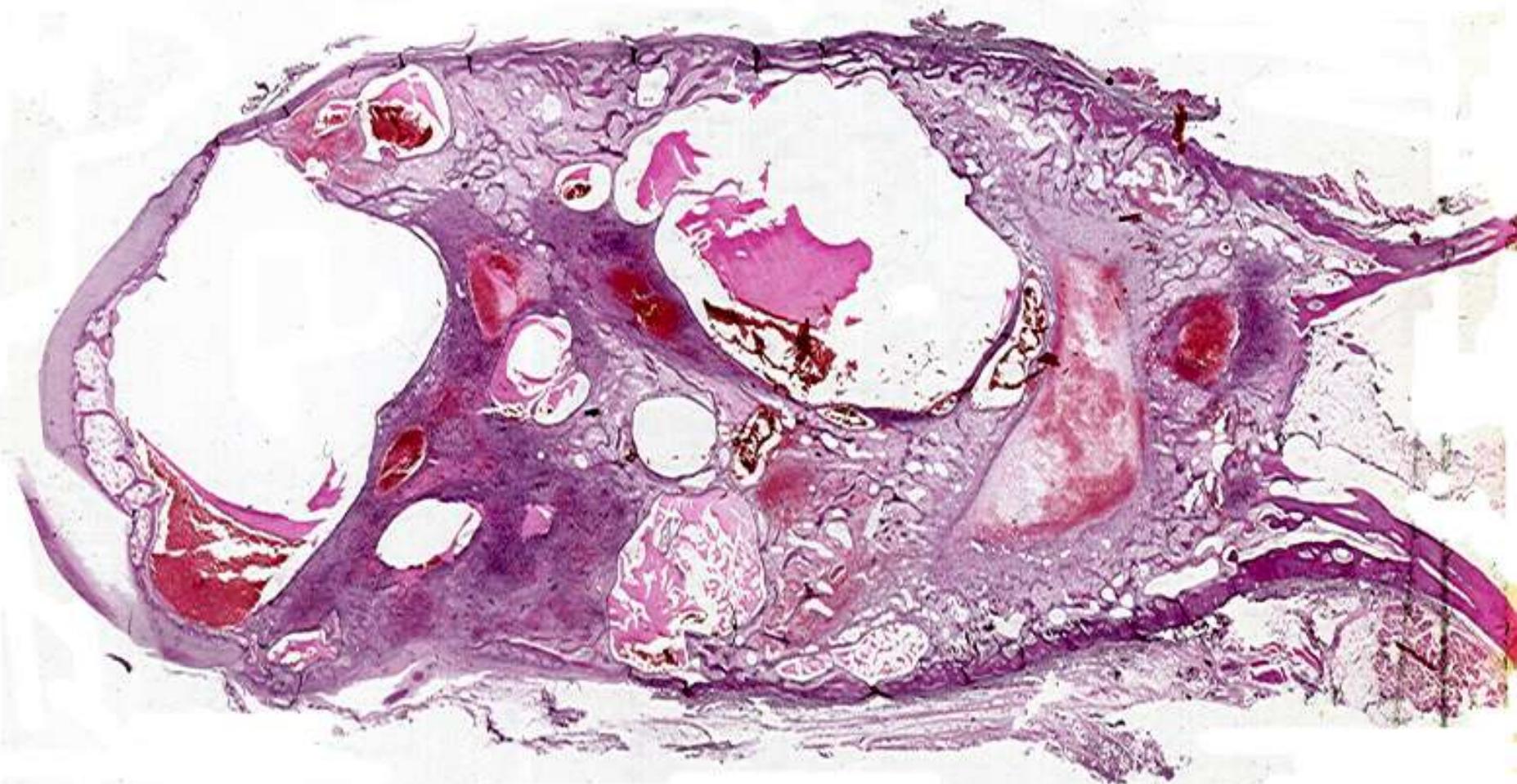
Macroscopía



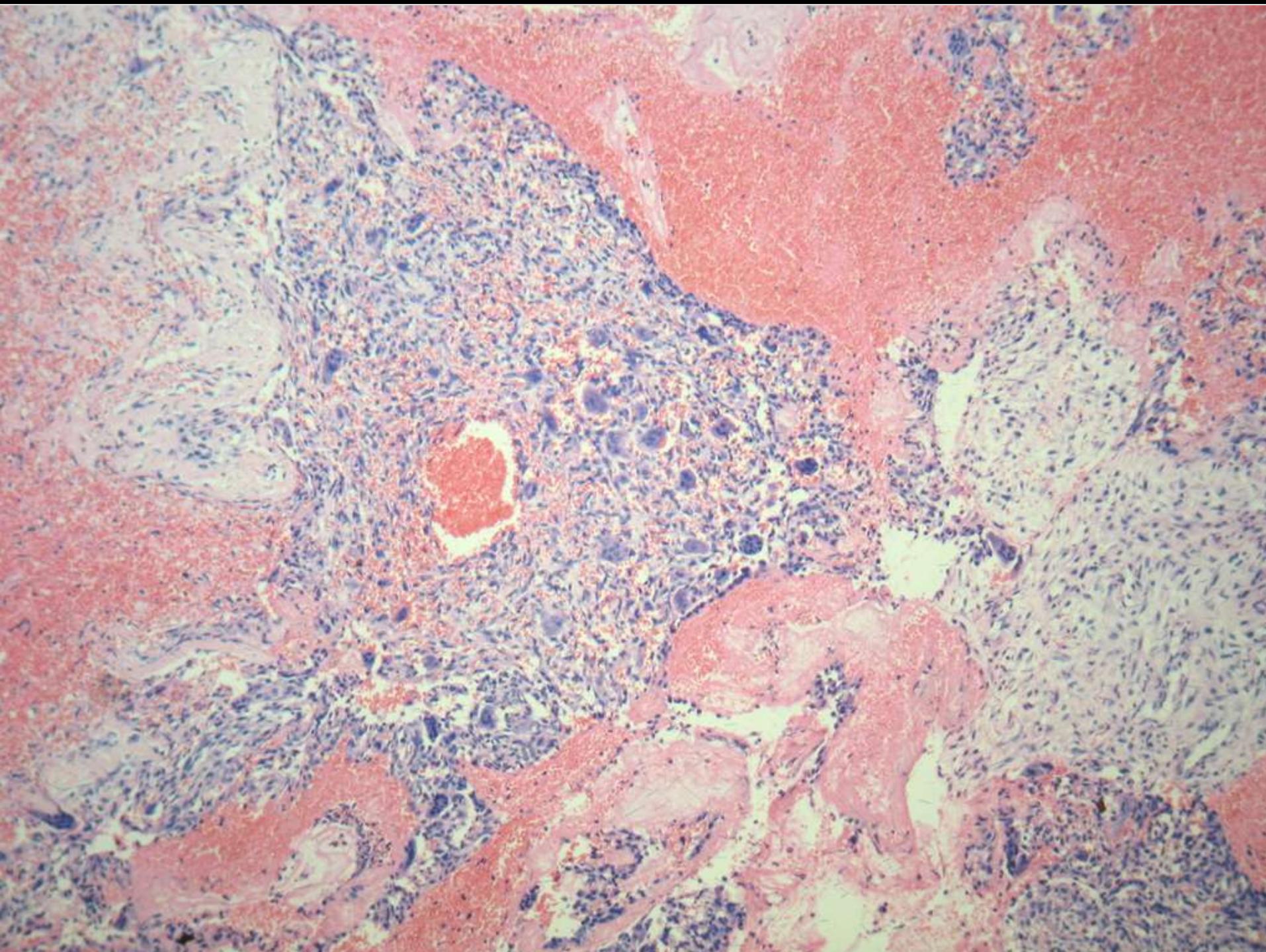


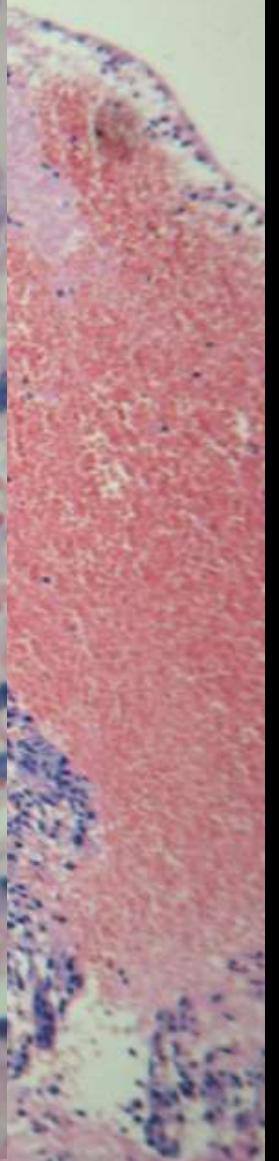
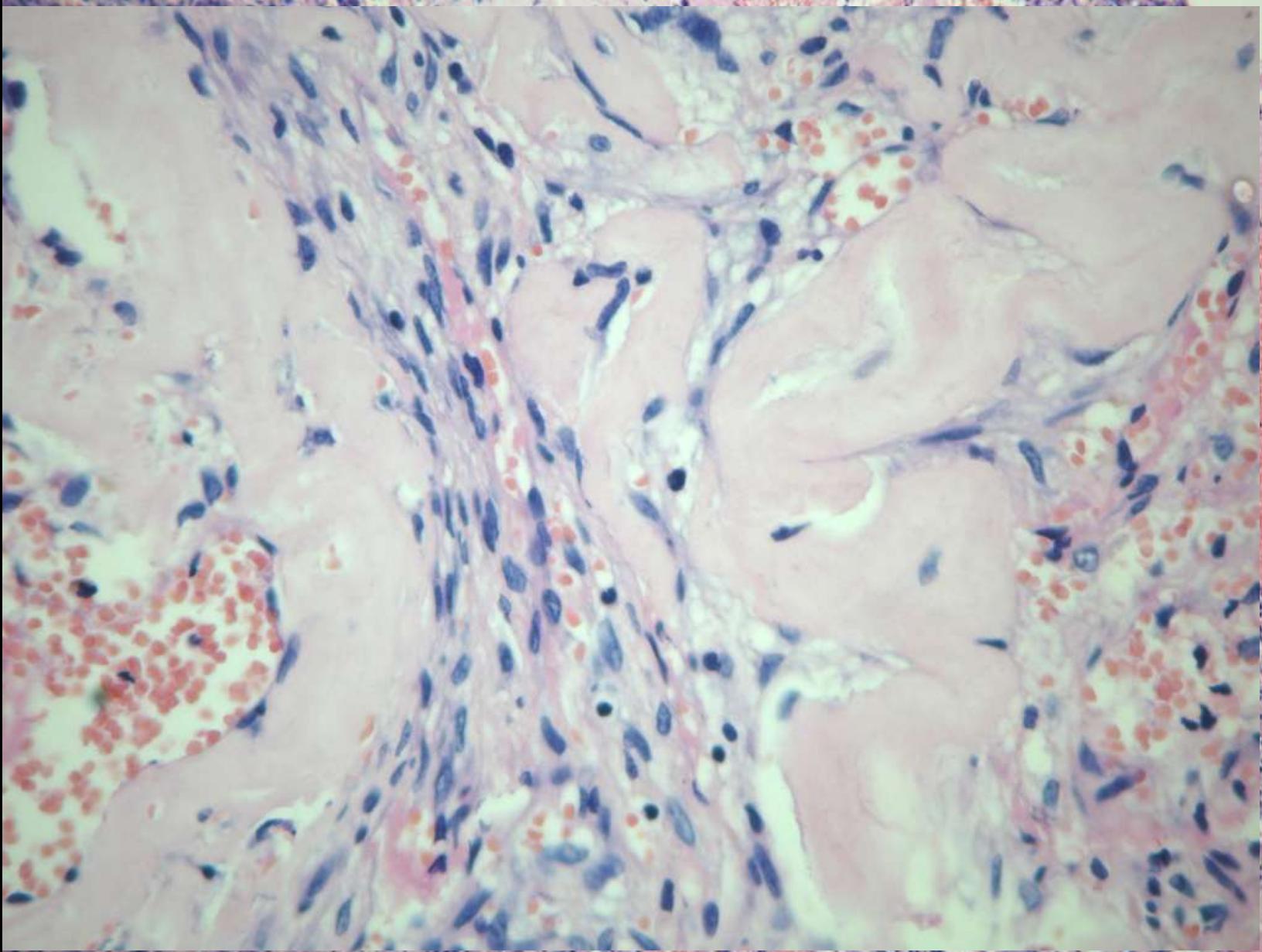
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Microscopía











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Rochester, MN 55905
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December 4, 2007

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HR07-59768

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C1121ABL Capital Federal
Buenos Aires
ARGENTINA

RE: ANONYMOUS, 62207 (62207)

Dear Dr. Olvi:

Thank you very much for sending me the materials representing tissue from the sphenoid/clivus of this 36-year-old female patient. Molecular cytogenetic studies performed on paraffin-embedded tissues using fluorescence in situ hybridization (FISH) show *USP6* rearrangements in approximately 25% of the cells. These findings are consistent with the diagnosis of primary aneurysmal bone cyst.

Our pathology report reads as follows: "Bone, sphenoid/clivus, biopsy (62207): Material sent for molecular cytogenetic studies for *USP6* rearrangement (research). See letter."

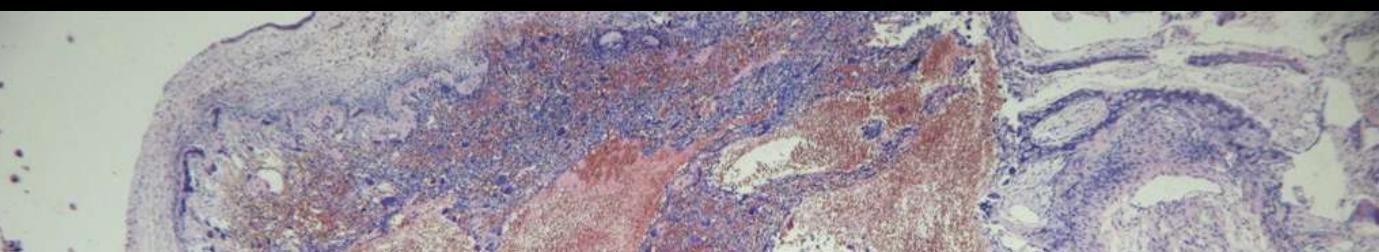
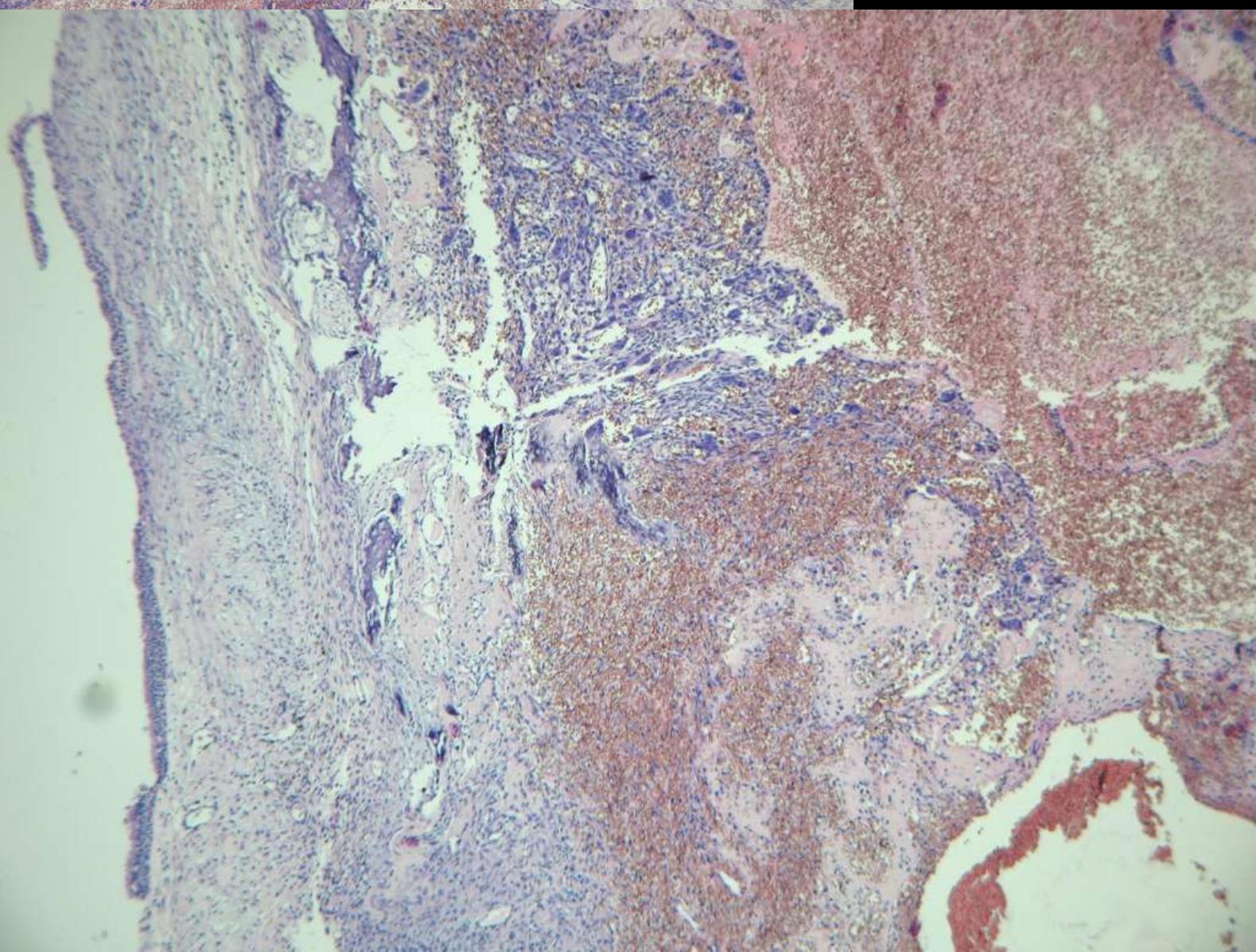
Again, thank you very much for sharing this interesting diagnostic problem with me. If I can be of any further assistance in the care of this patient, please do not hesitate to contact me. Your block is enclosed.

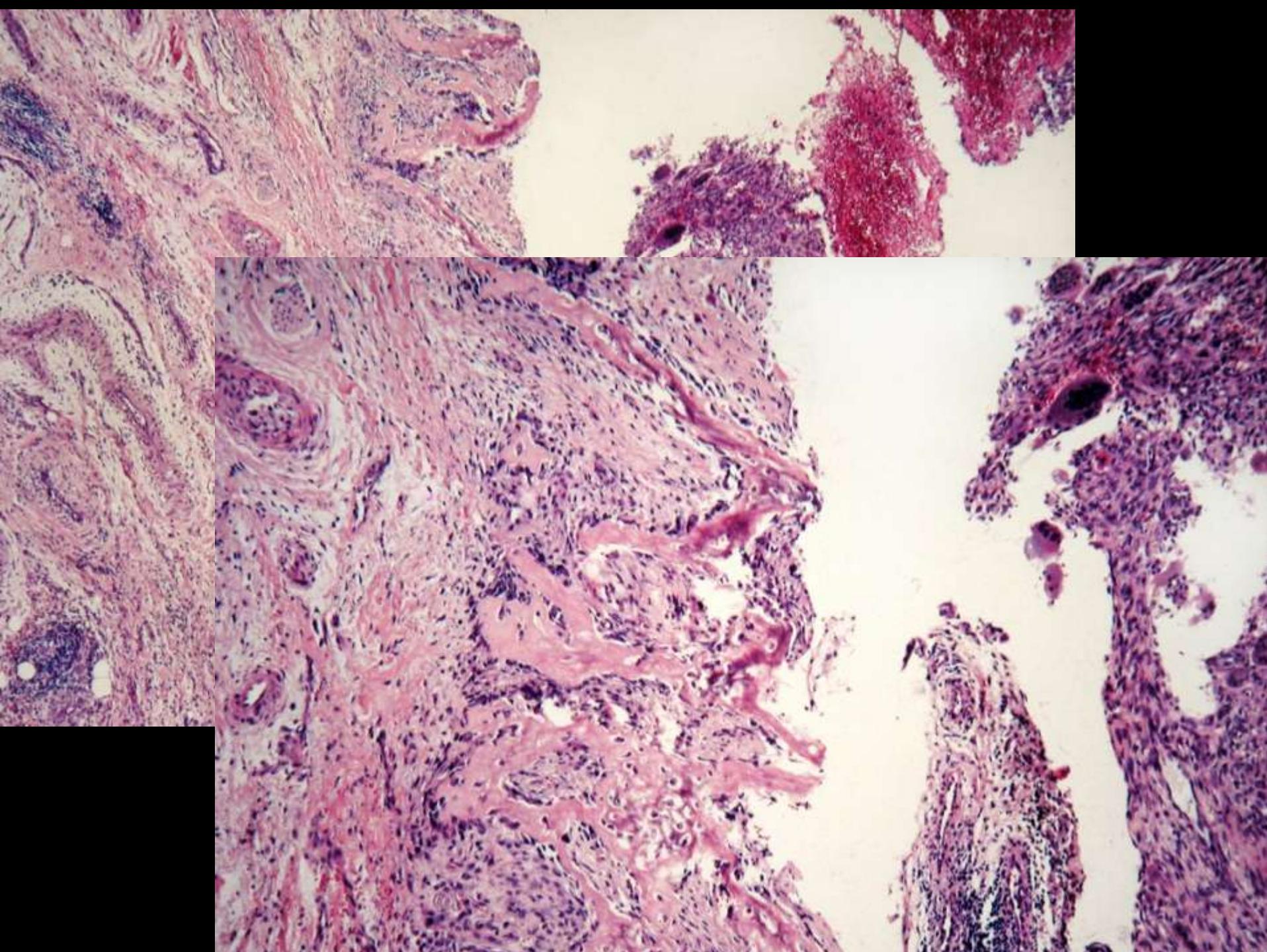
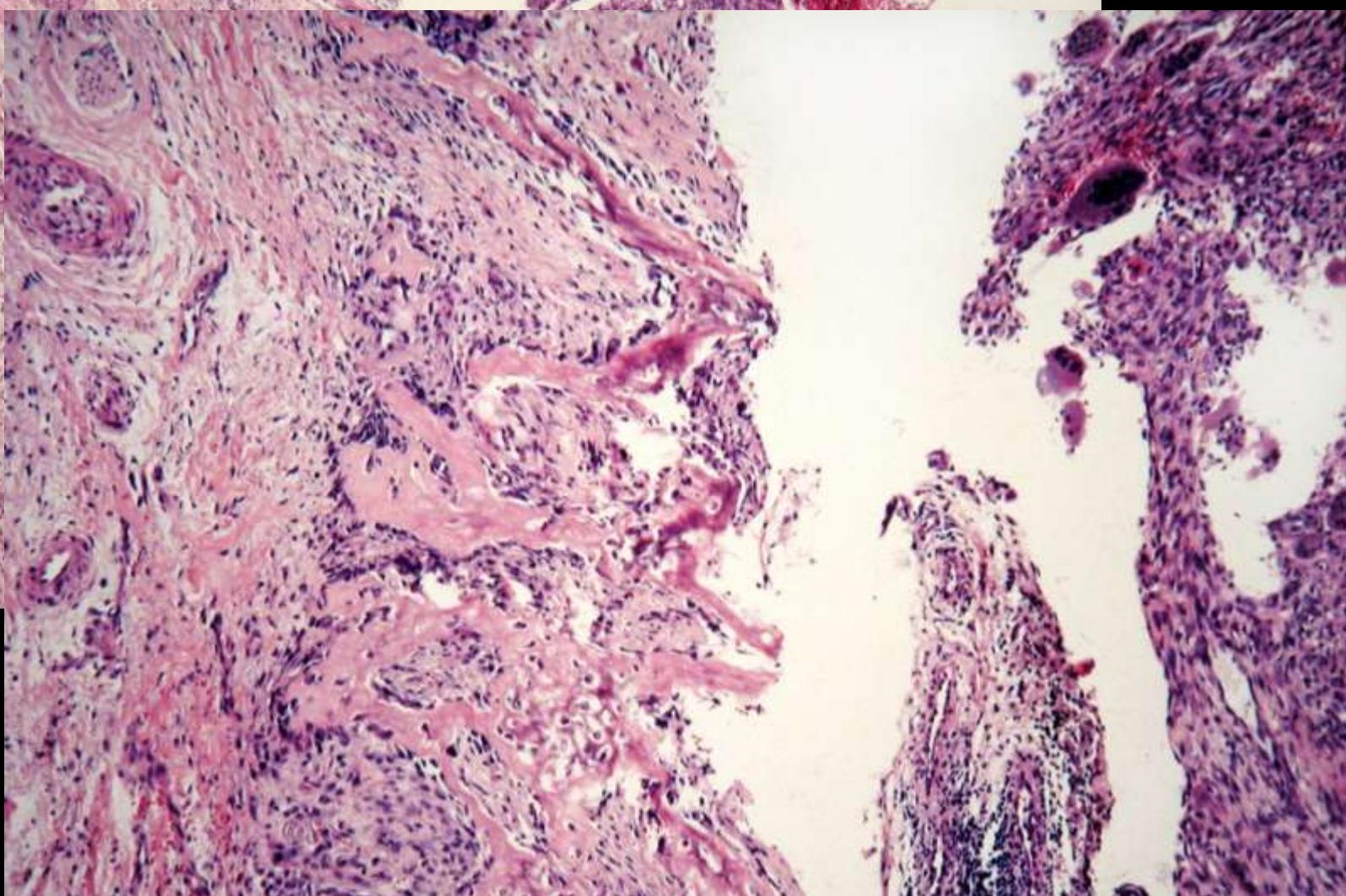
Sincerely yours,

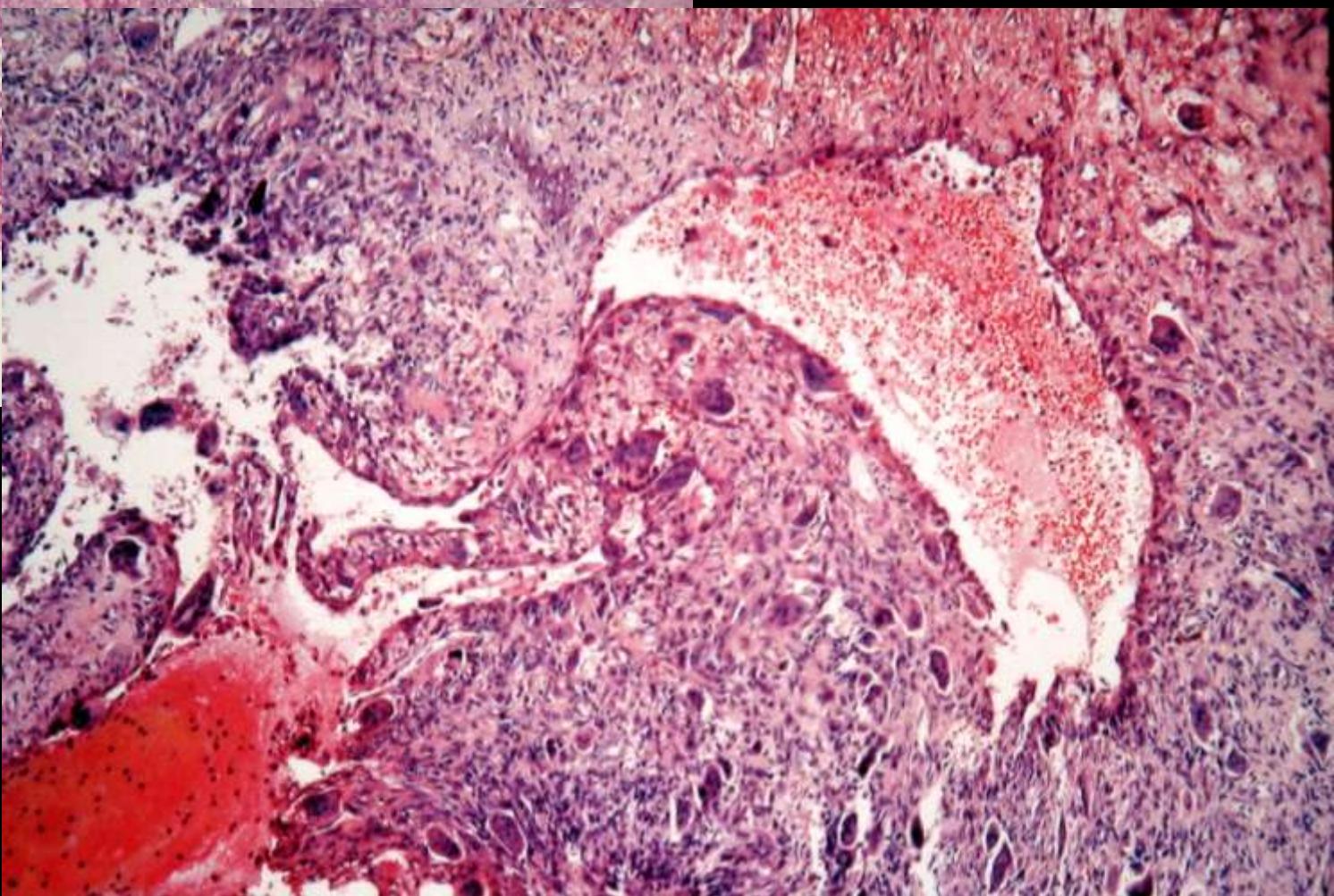
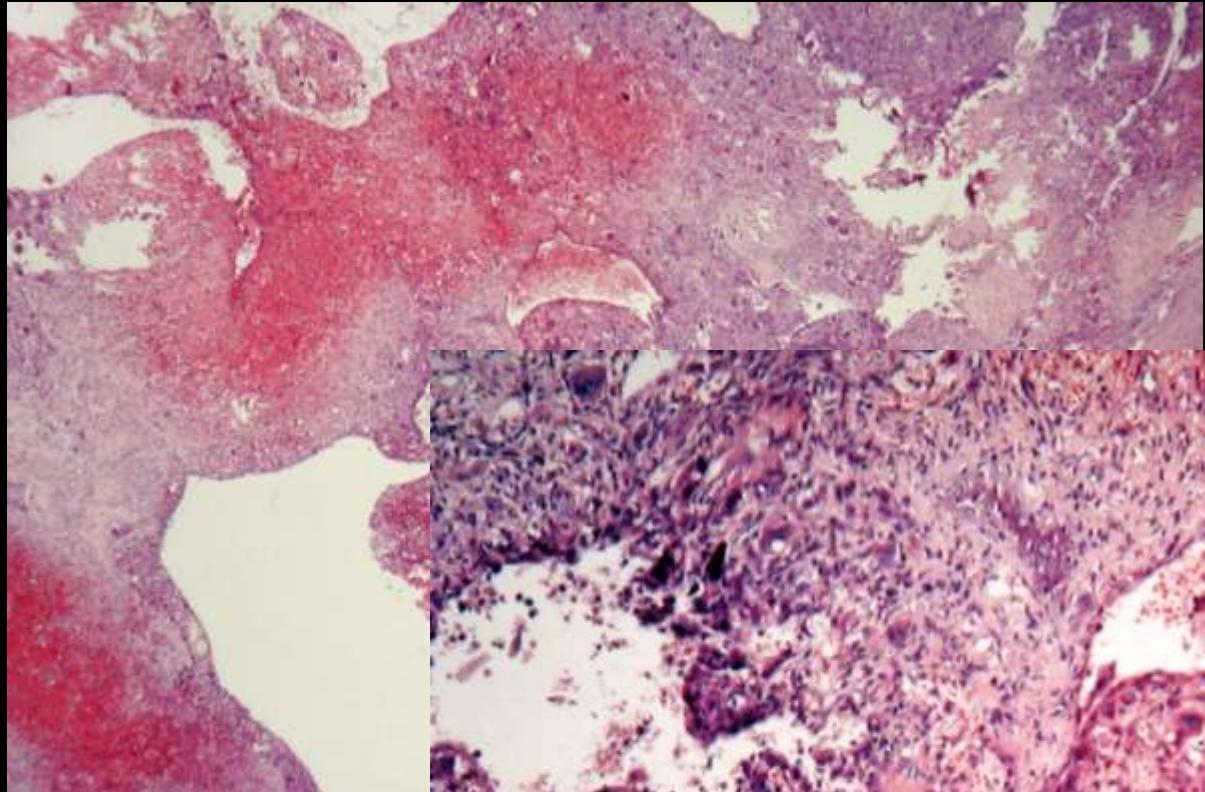
Andre M. Oliveira, M.D.

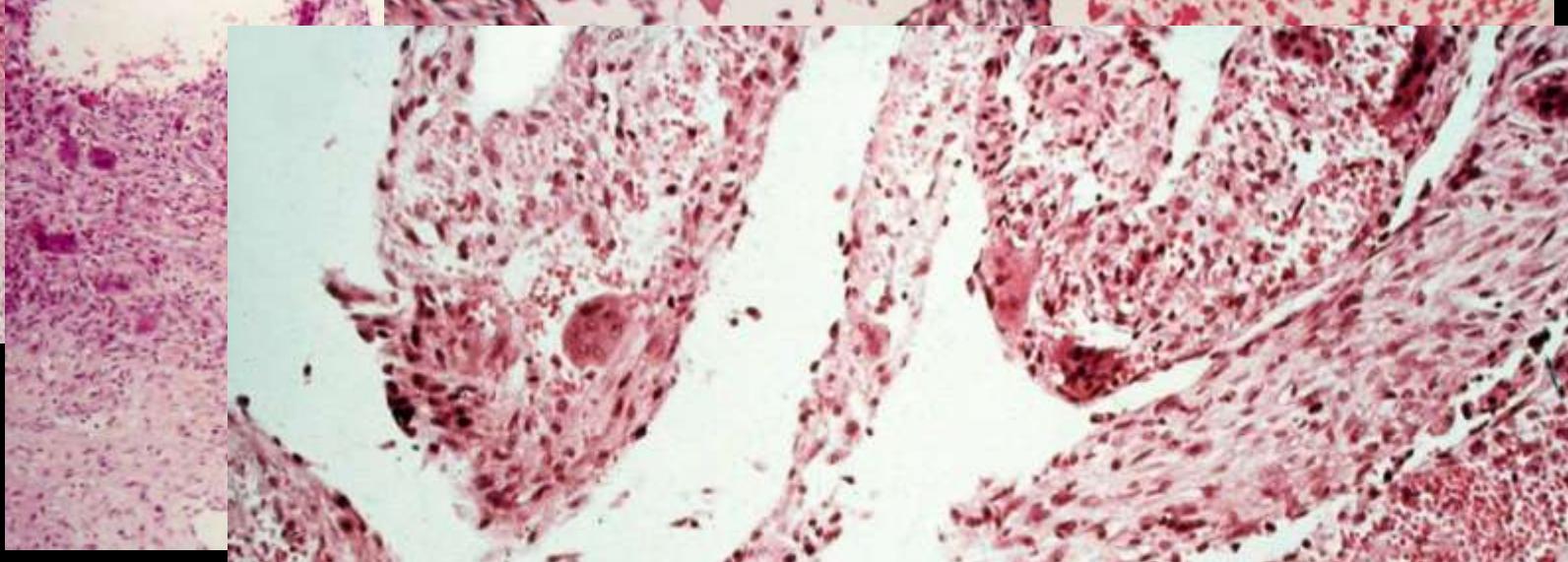
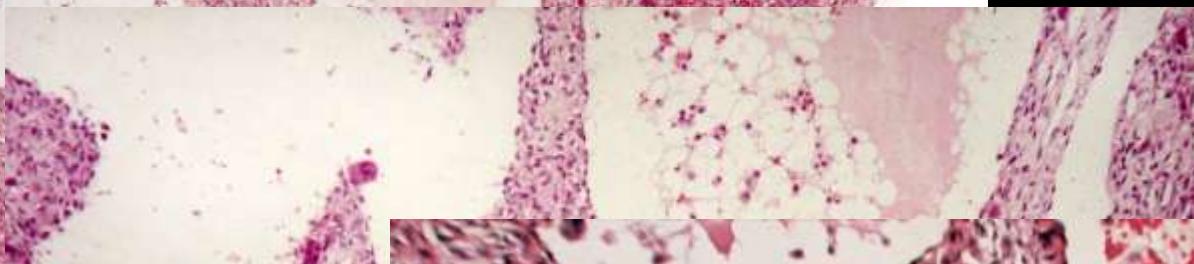
AMO/ls
Enclosure

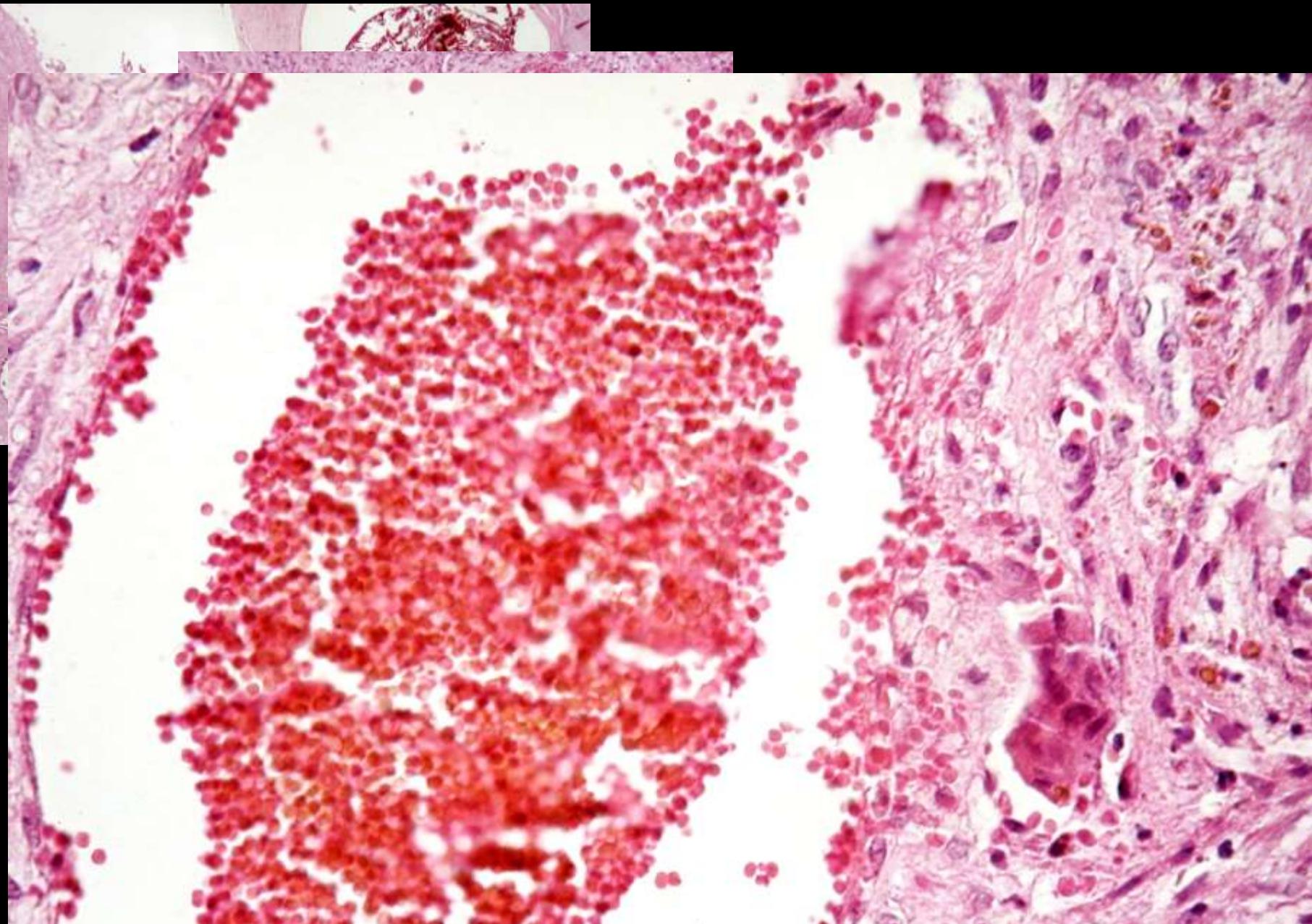
*USP6
rearrangements en
25% de las
células.*

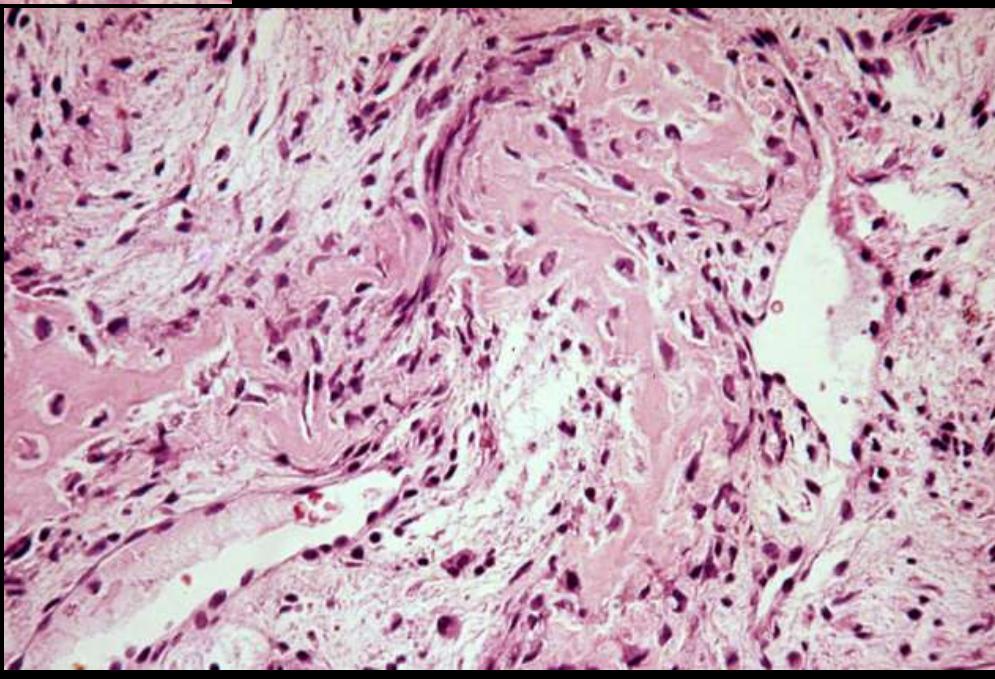
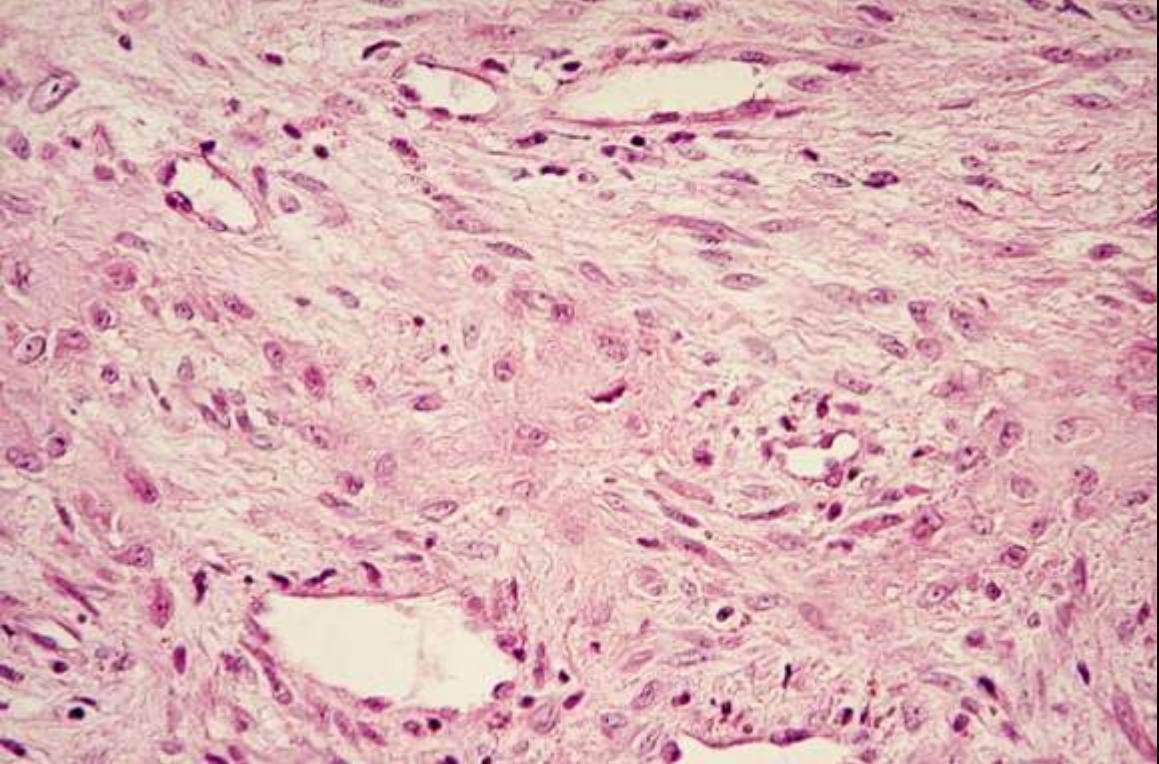


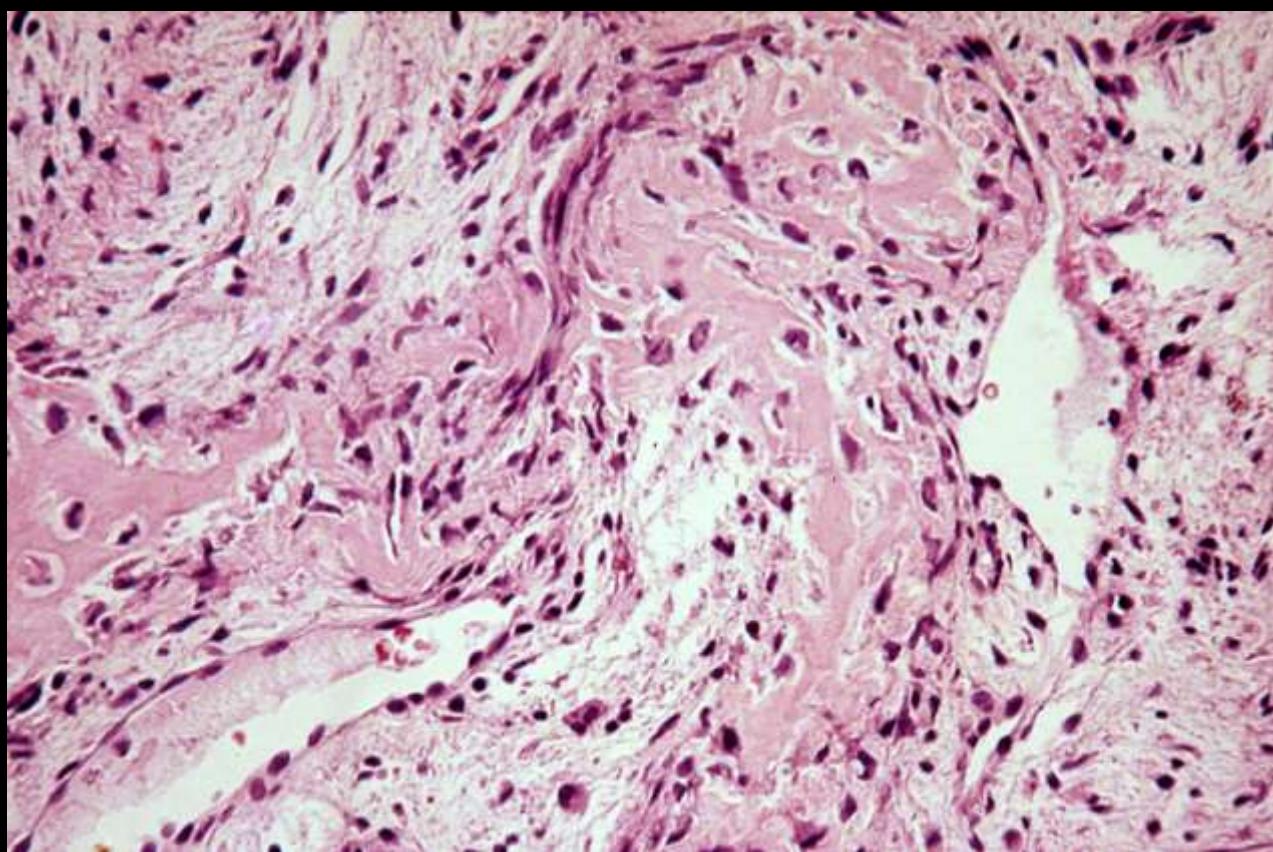
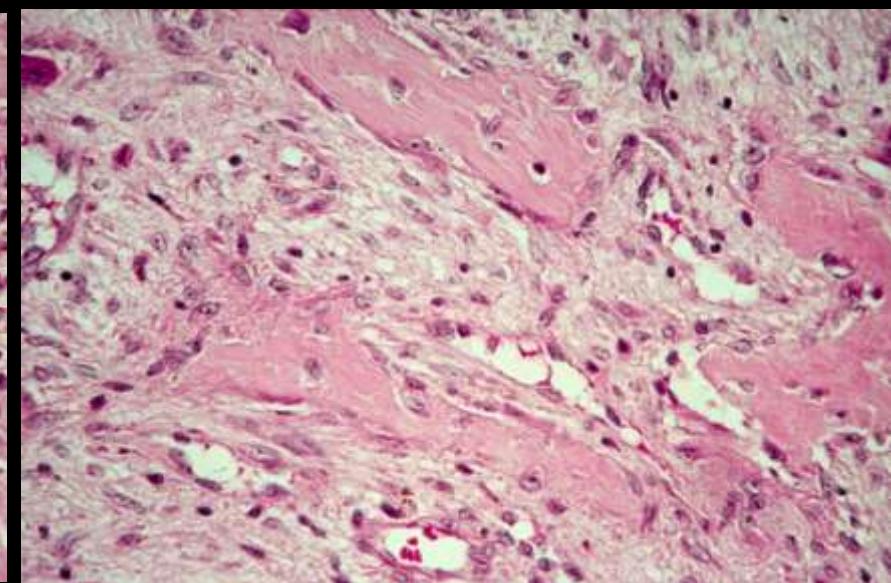
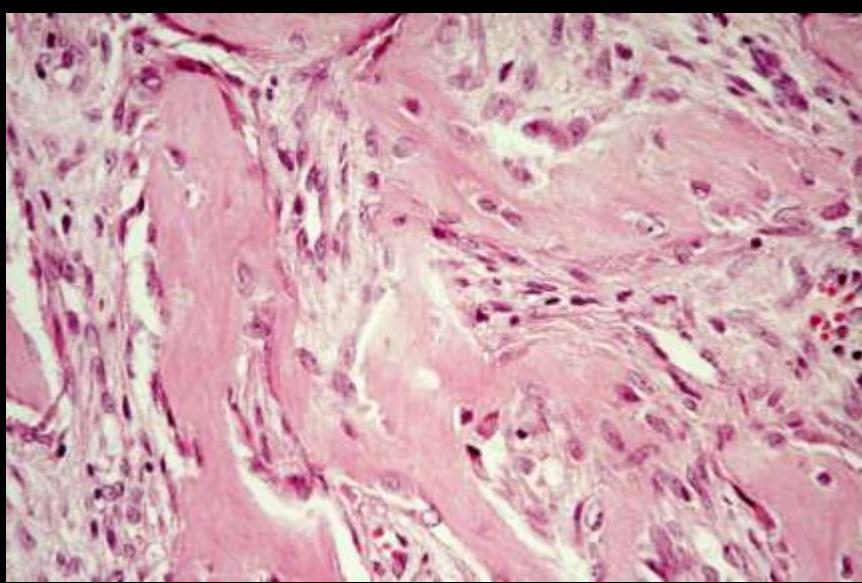


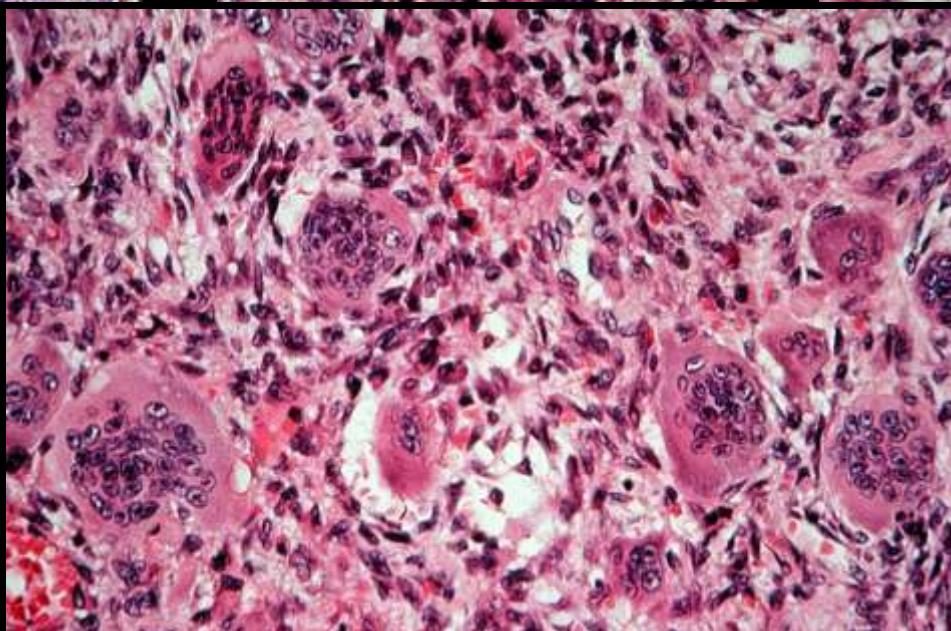
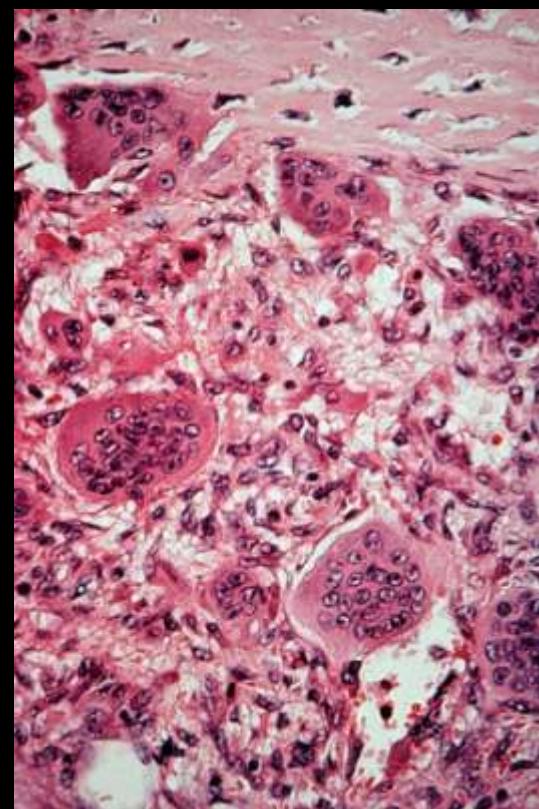
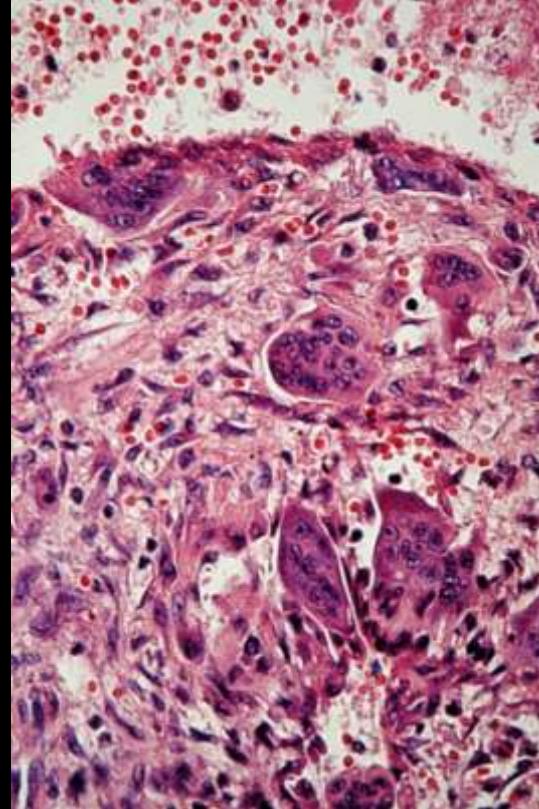
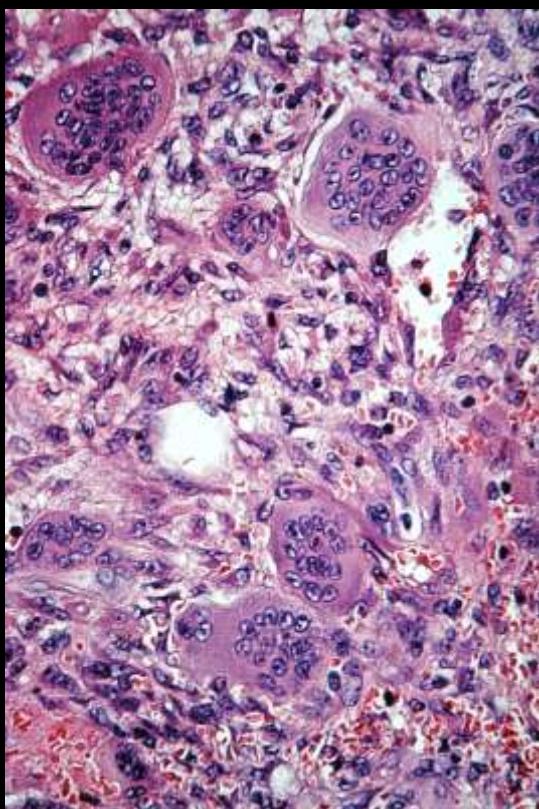


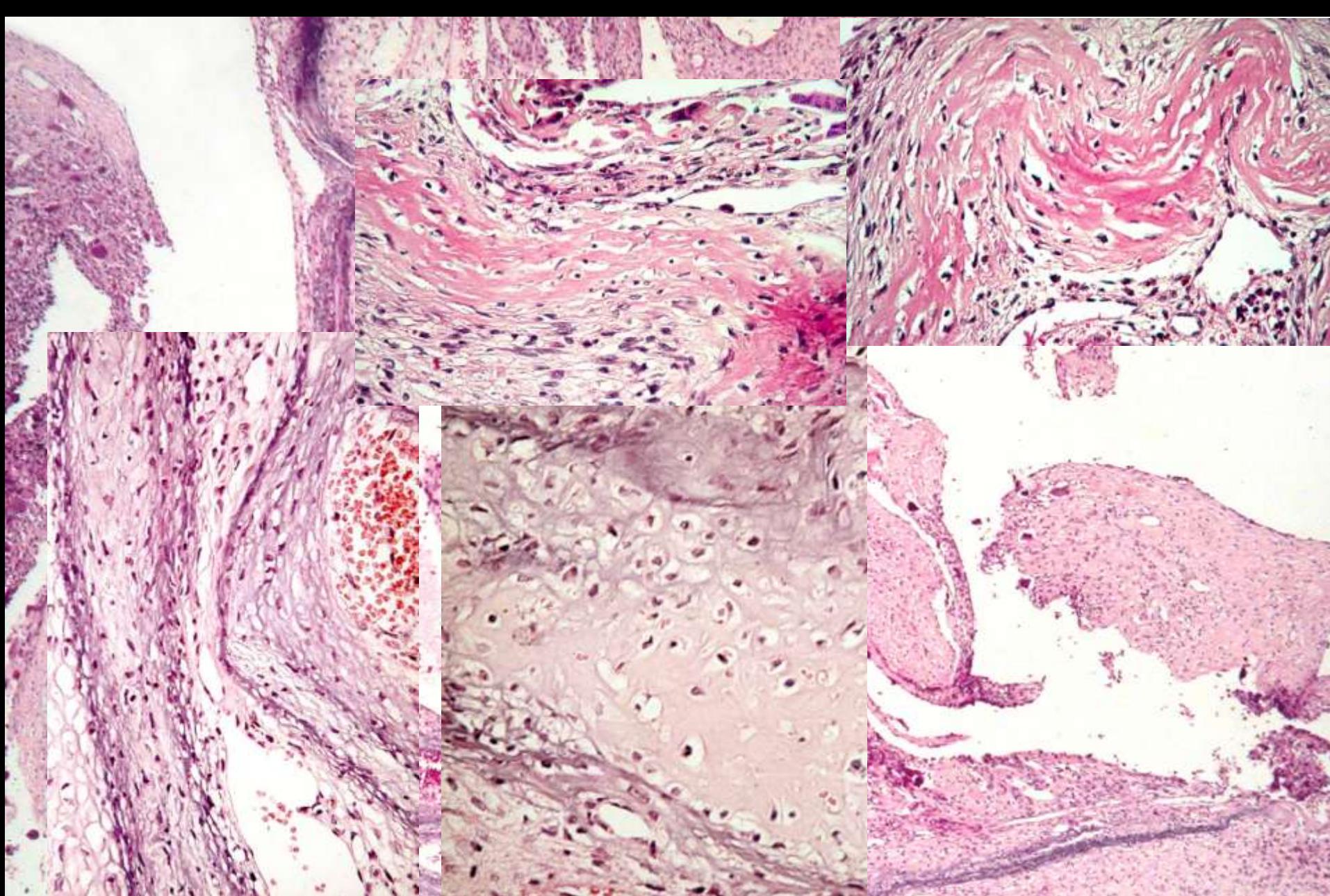






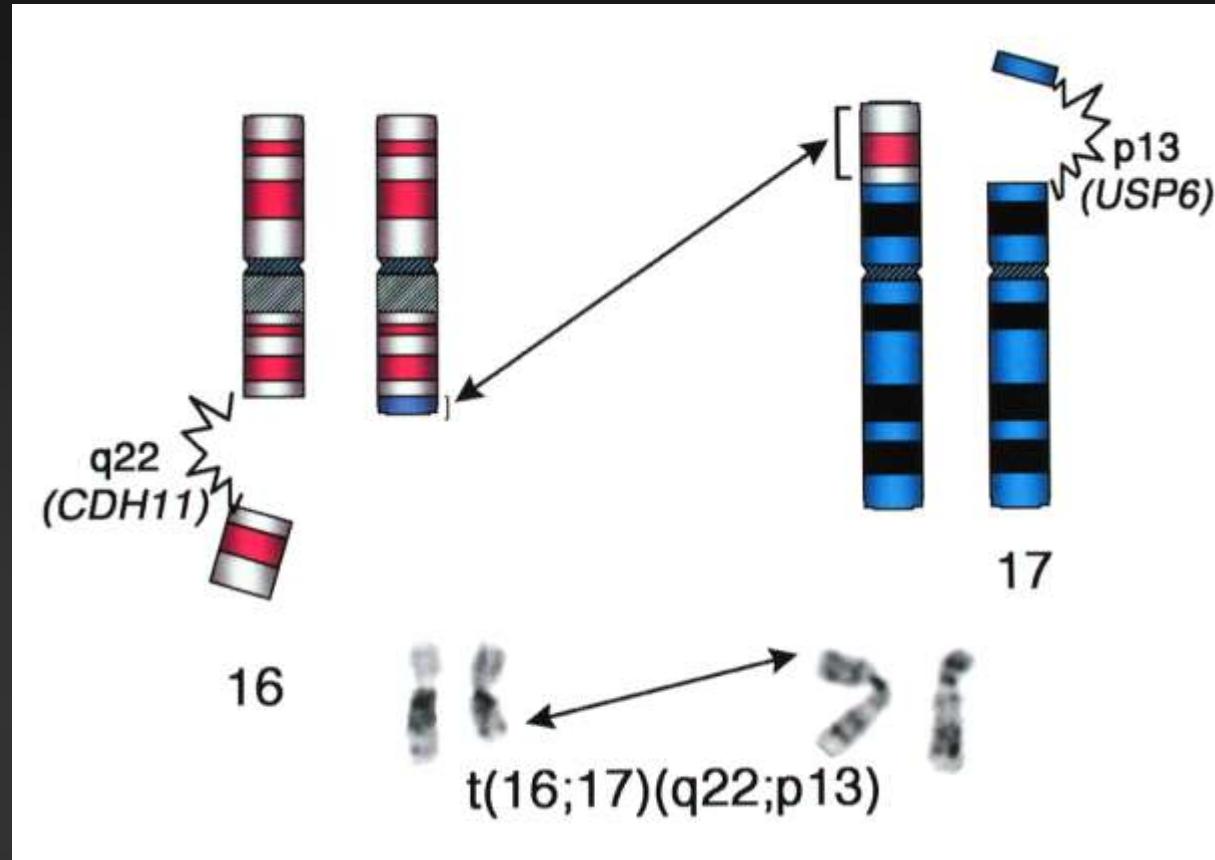






GENETICA

Partial karyotype
and schematic
illustration of the
 $t(16;17)(q22;p13)$
in ABC



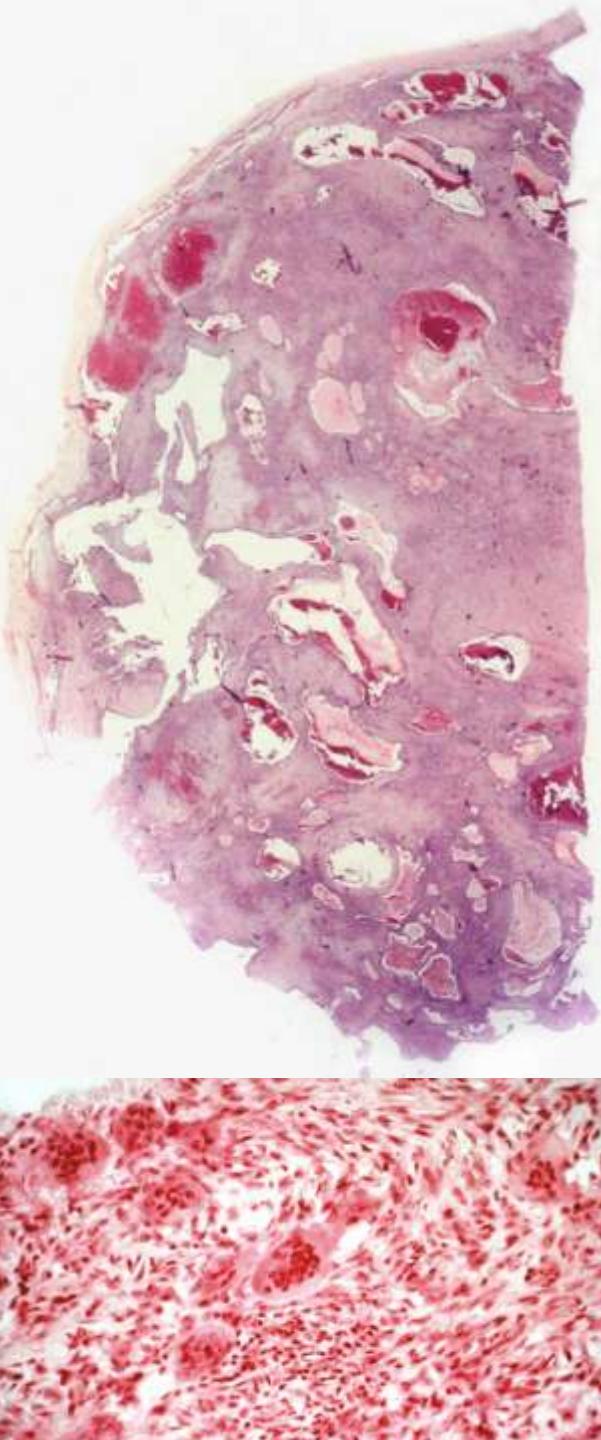
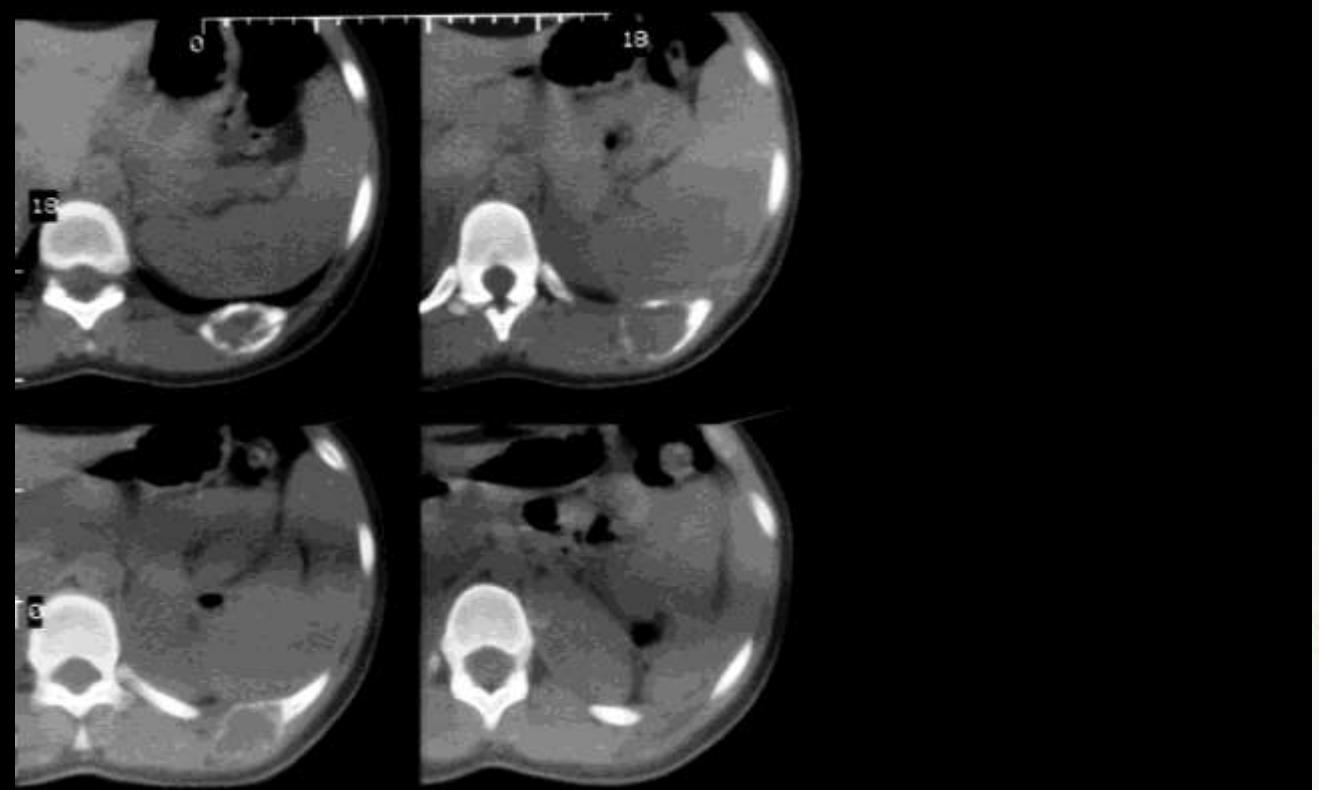
•Unni,KK, Inwards CY, Bridge JA, Kindblom L-G, Wold L.
Tumors of the Bones and Joints. AFIP 2005.

•Panoutsakopoulos G, Pandis N, Kyriazoglou I, Gustafson P, Mertens F, Mandahl N. Recurrent $t(16;17)q(22;p13)$ in aneurysmal bone cyst. **Genes Chromosomes Cancer** **26:265-6** 1999.

•Dal Cin P, Kozakewich HP, Goumnerova L, Mankin HJ, Rosenberg AE, Fletcher JA. Variant translocations involving 16q22 and 17p13 in solid variant and extraosseous forms of aneurysmal bone cyst. **Genes Chromosomes Cancer**, **28: 233-4**, 2000.

USP6 (Tre2) Fusion Oncogenes in Aneurysmal Bone Cyst
**Oliveira AM, Hsi BL, Weremowicz S, Rosenberg AE, Dal Cin P, Nora J,
Bridge JA, Perez-Atayde AR, Fletcher JA.**
Cancer Research 64, 192-202
2004

“Herein we show that the chromosomal translocation t(16;17)(q22;p13) fuses the promoter region of the osteoblast cadherin 11 gene (*CDH11*) on chromosome 16q22 to the entire coding sequence of the ubiquitin protease (UBP) *USP6 gene* (also known as *Tre 2* oncogene) on chromosome 17p13. We also show that *CDH11-USP6* might be specific for ABC in that it was not demonstrated in other osseous and nonosseous tumors. *CDH11* is highly expressed in bone, indicating that *USP6* tumorigenic activity can result from transcriptional up-regulation”.



**An unusual intraosseous lesion with fibroblastic, osteoclastic,
osteoblastic, aneurysmal and fibromyxoid elements.**

“Solid” variant of aneurysmal bone cyst

Sanerkin NG, Mott MG, Roylance J.

Cancer 51: 2278-86

1983

Solid Variant of Aneurysmal Bone Cyst

Bertoni F, Bacchini P, Capanna R, Ruggieri P, Biagini R, Ferruzzi A, Bertelli G, Picci P, Campanacci M.

Cancer 71: 729-734

1993

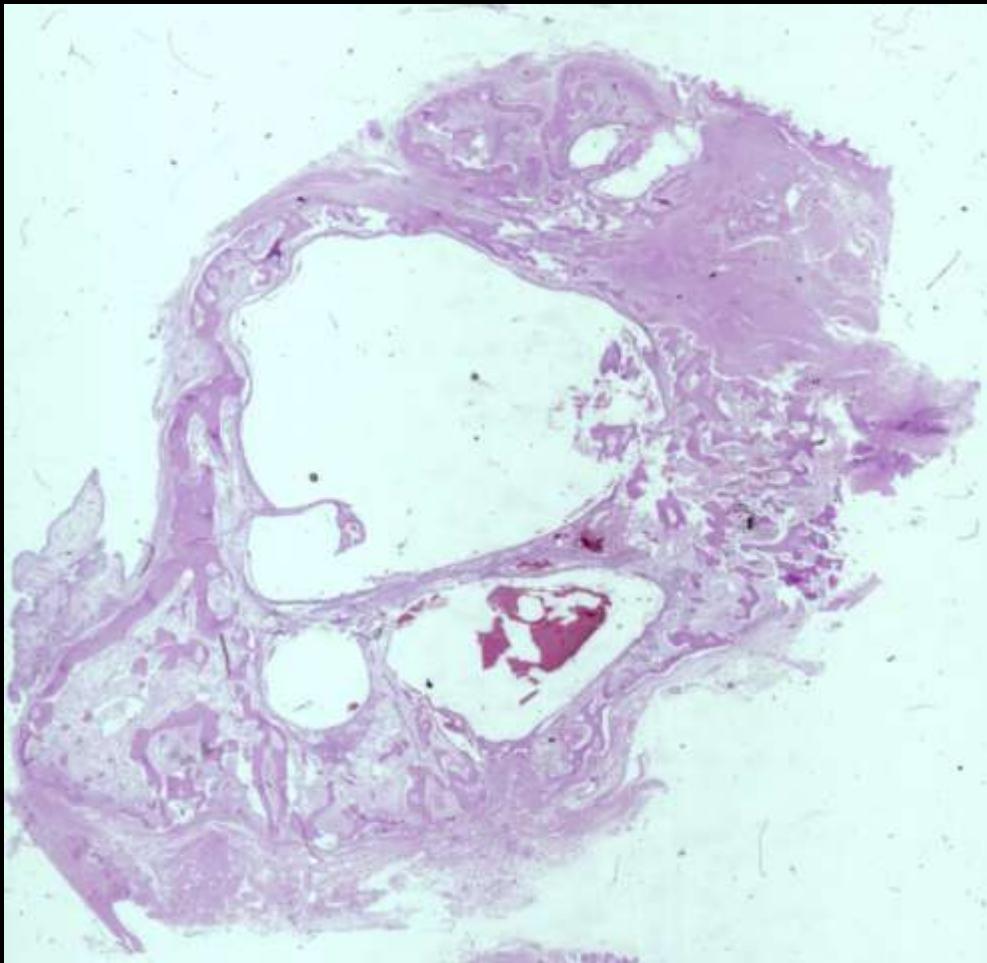
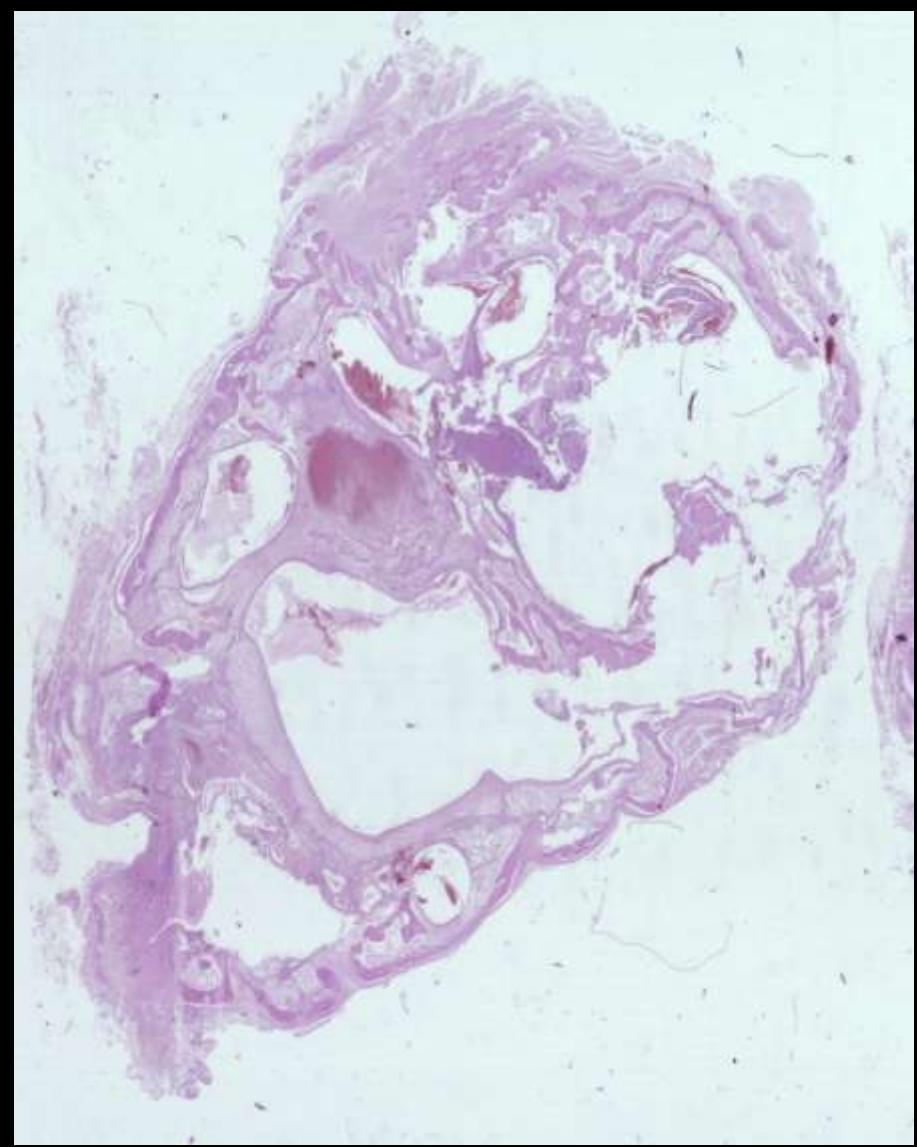
Soft tissue aneurysmal bone cyst: A clinicopathologic study of five cases

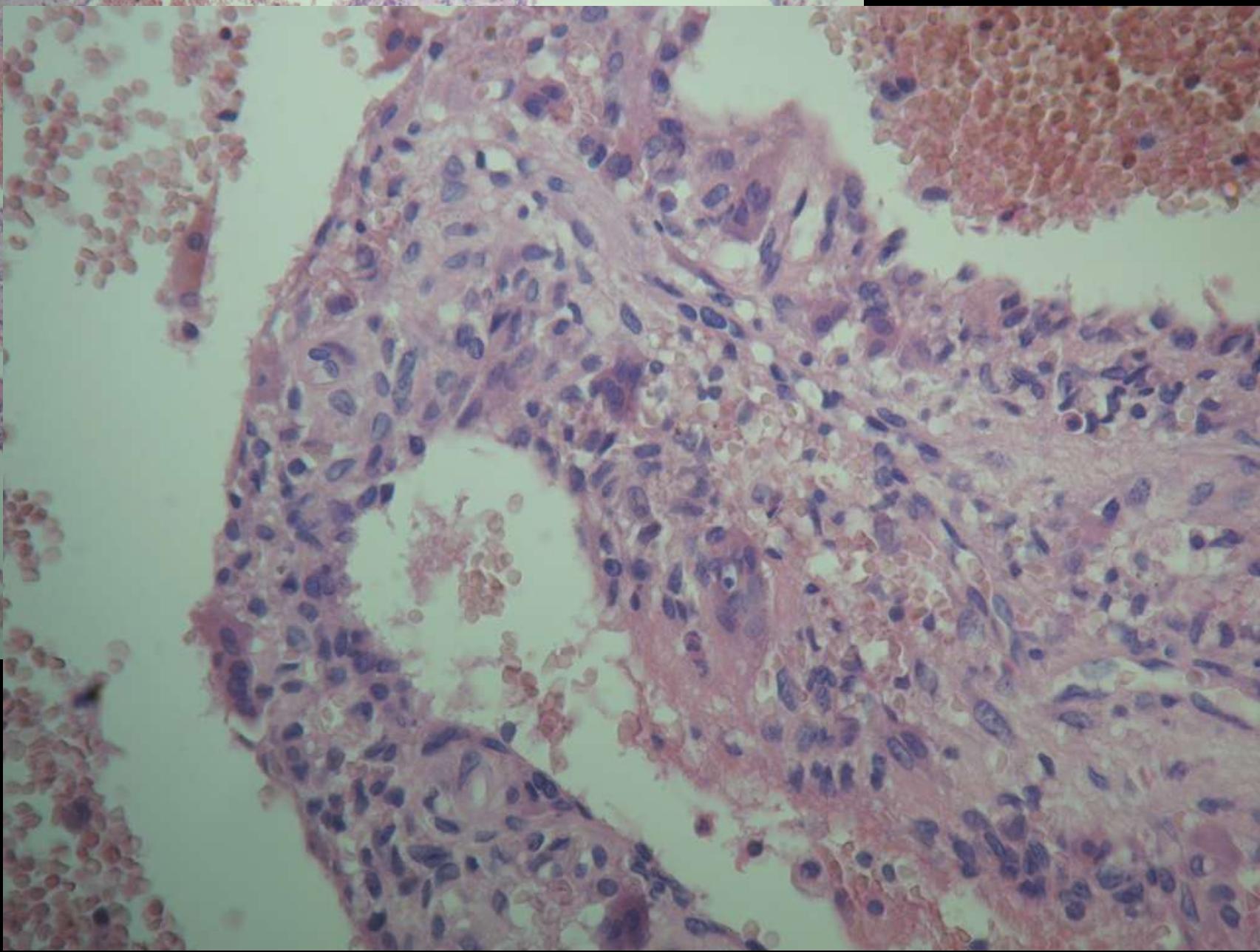
Nielsen GP, Fletcher ChDM, Smith MA, Rybak L, Rosenberg AE.

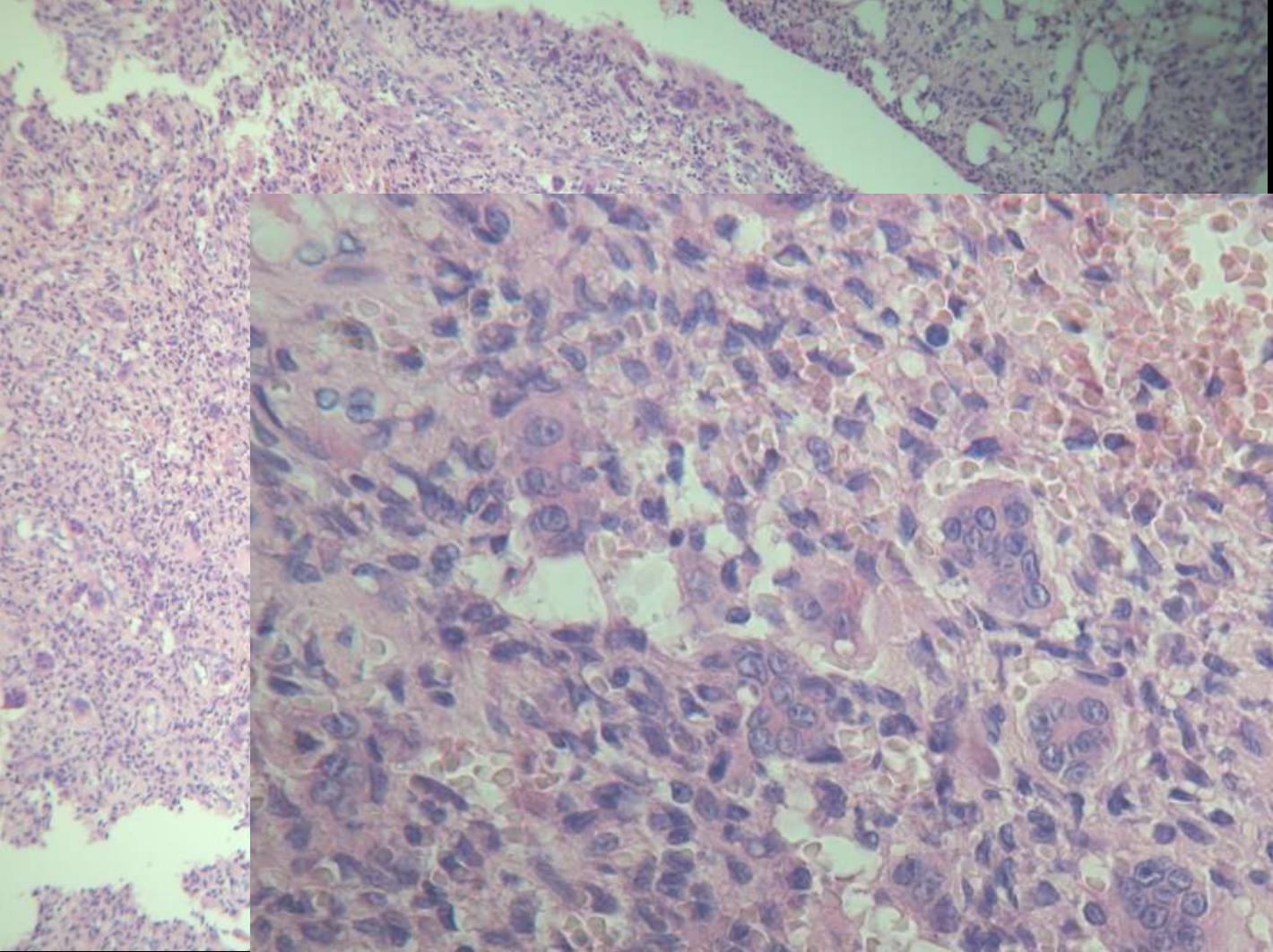
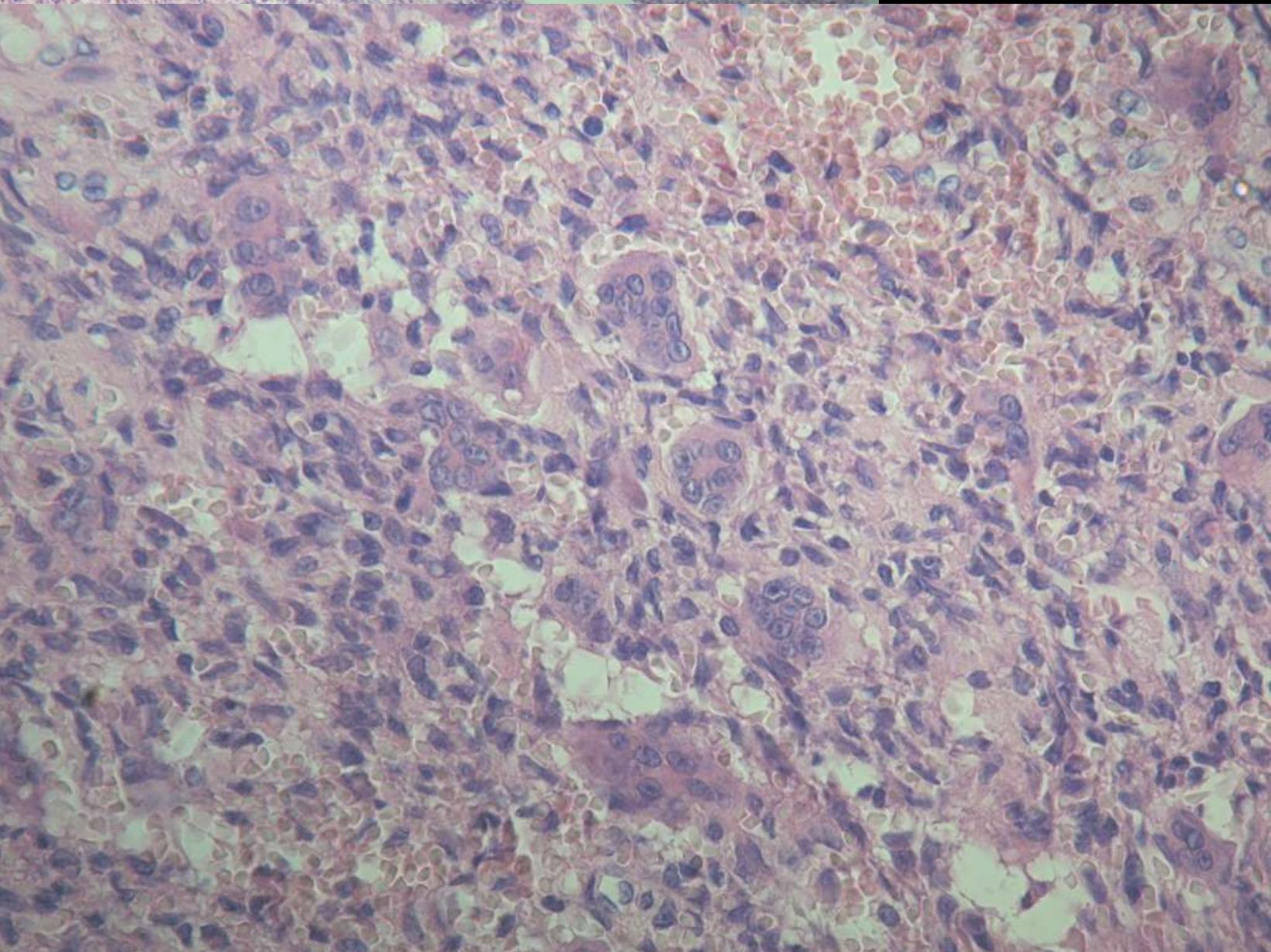
Am. Journal Surgical Pathology 26, 1, 64-69

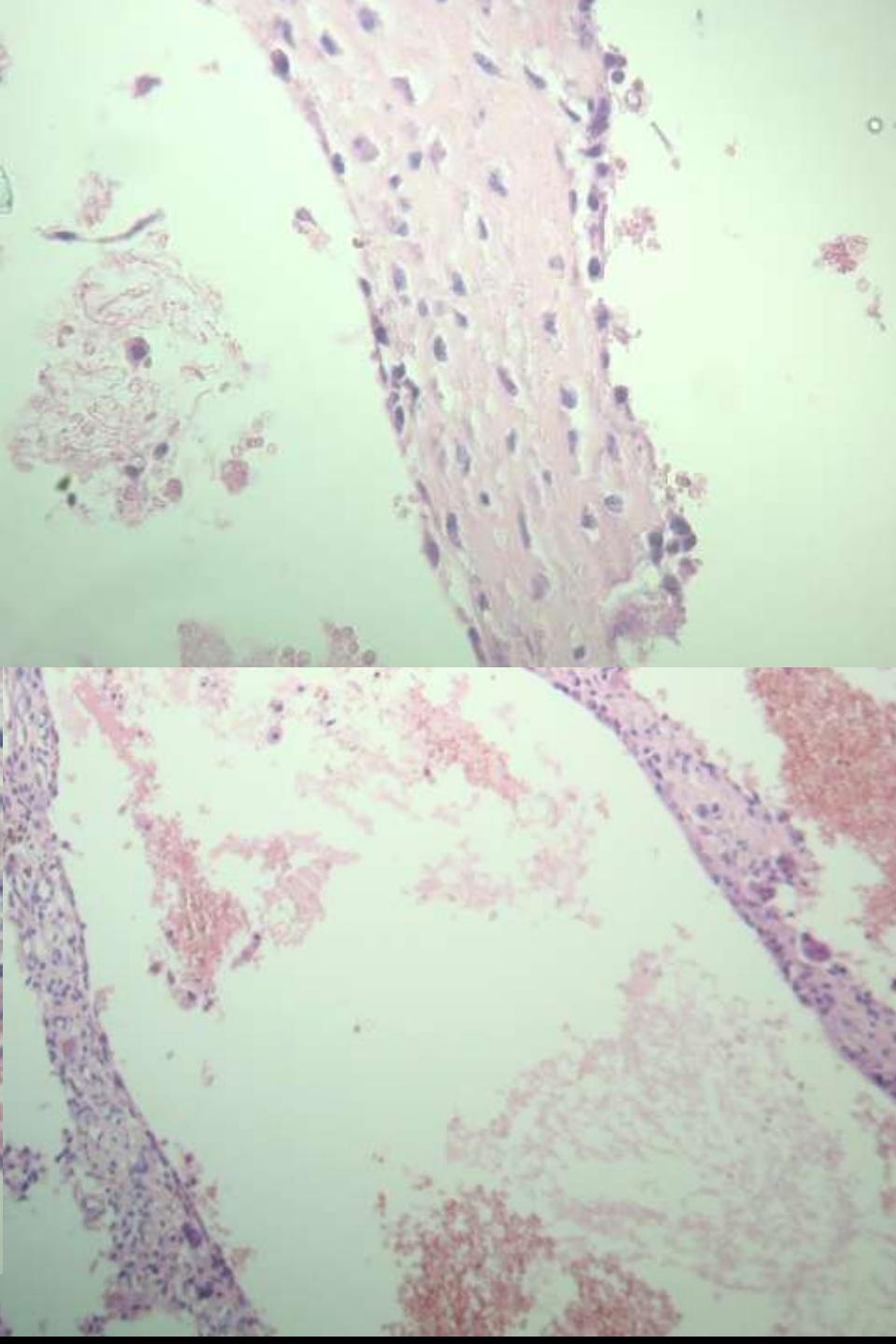
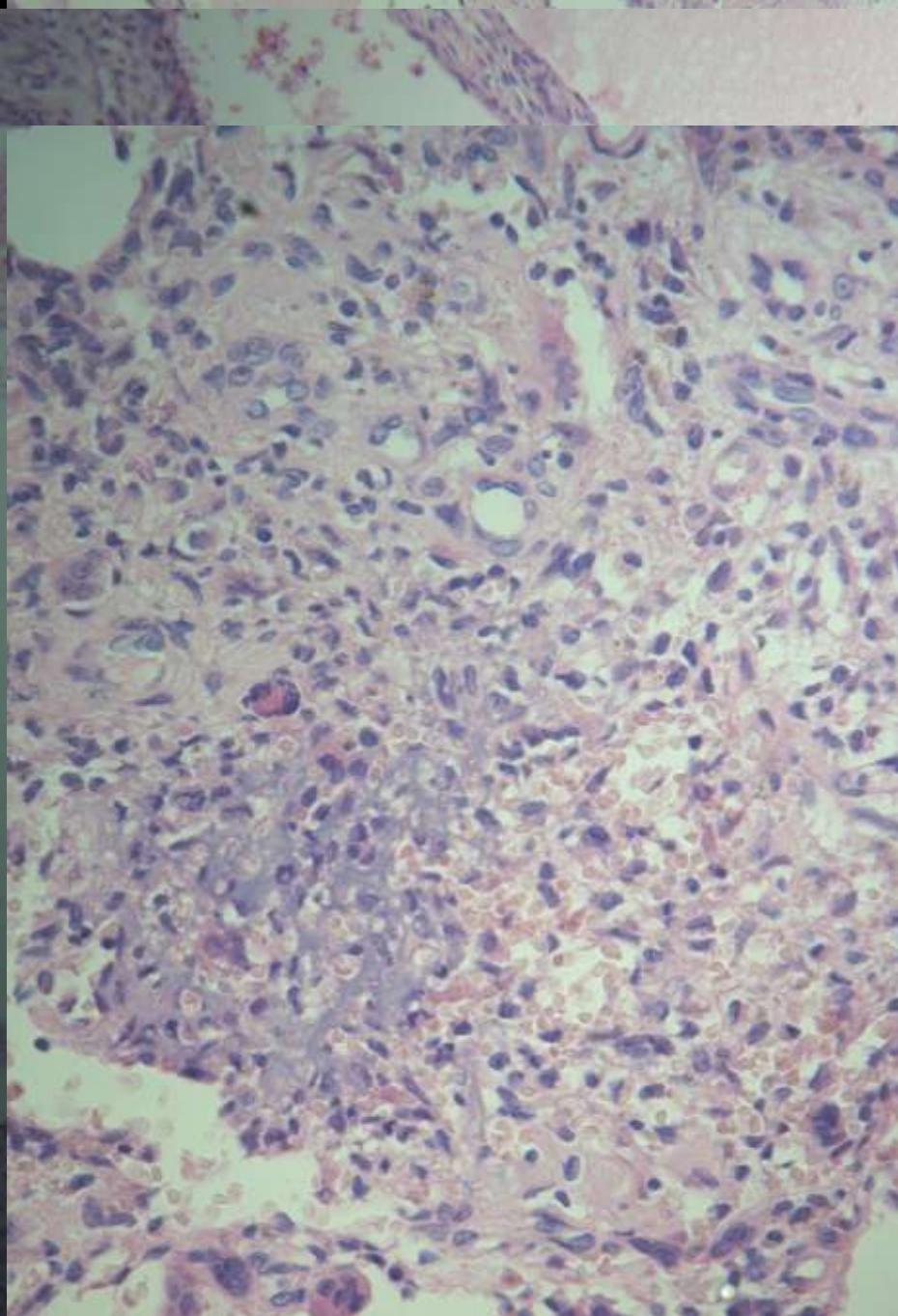
2002

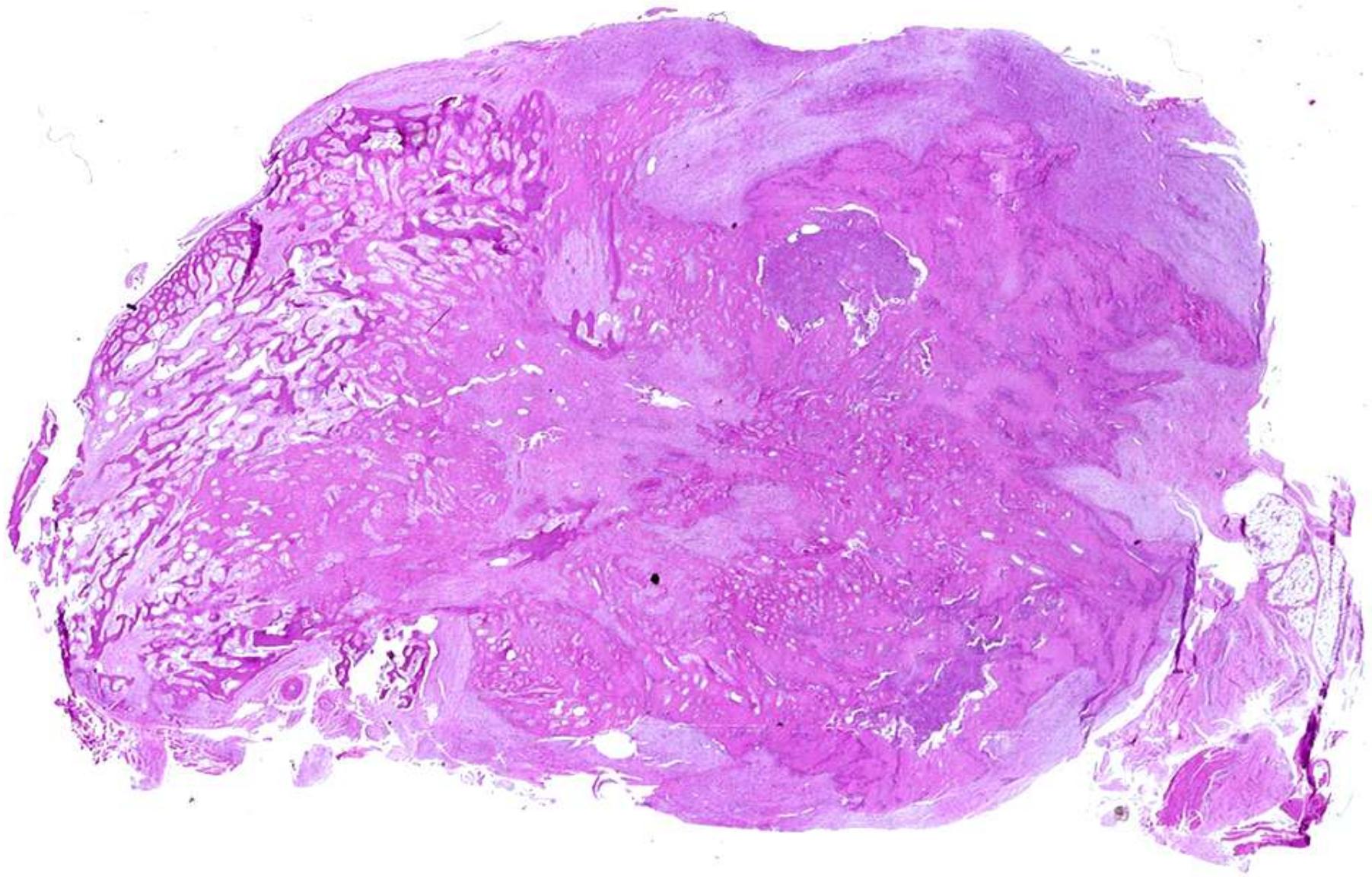


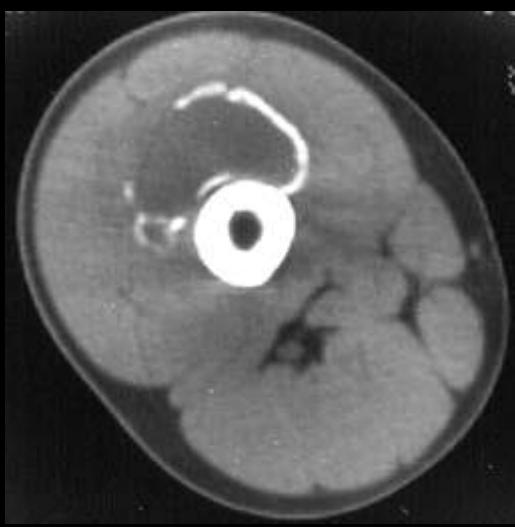












Frequency of *USP6* rearrangements in myositis ossificans, brown tumor, and cherubism: molecular cytogenetic evidence that a subset of “myositis ossificans-like lesions” are the early phases in the formation of soft-tissue aneurysmal bone cyst. Sukov WR, Franco MF, Erickson-Johnson M, Chou MM, Unni KK, Wenger DE, Wang X, Oliveira AM.

**Skeletal Radiol. 37:321-327
2008**

Presence of *USP6* rearrangements –FISH- with probes flanking the *USP6* locus on chromosome 17p13.

MO	12
“BT”	6
Che.	5

MO	2
“BT”	0
Che.	0

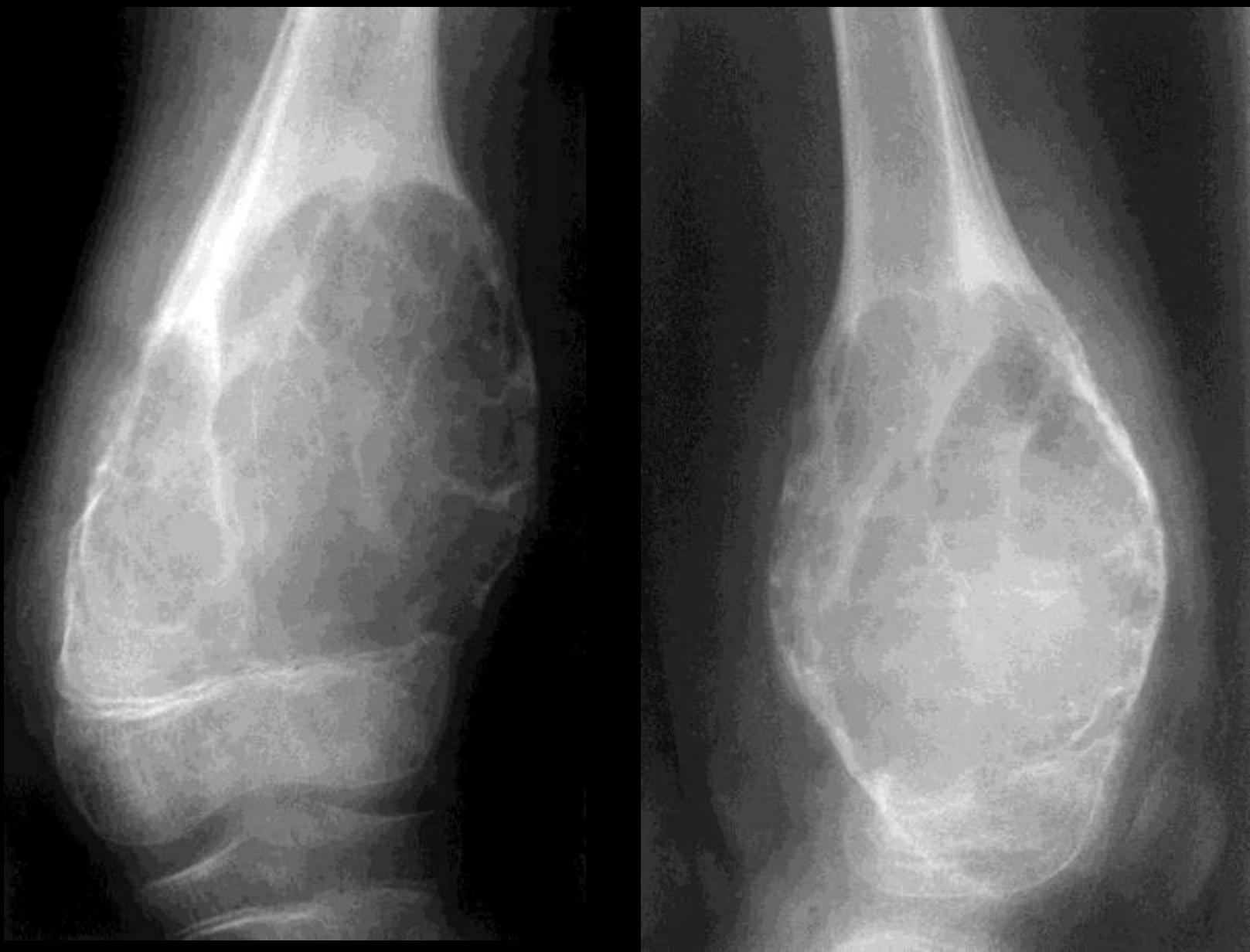
“These findings indicate that a subset of cases with apparent classic histologic and imaging features of MO are rather better classified as being soft-tissue ABC with clonal *USP6* rearrangements”.

**Malignant transformation of aneurysmal bone cyst,
with an analysis of the literature.**

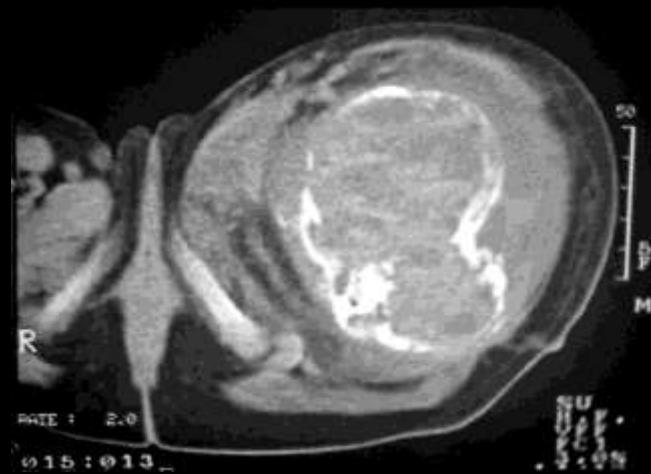
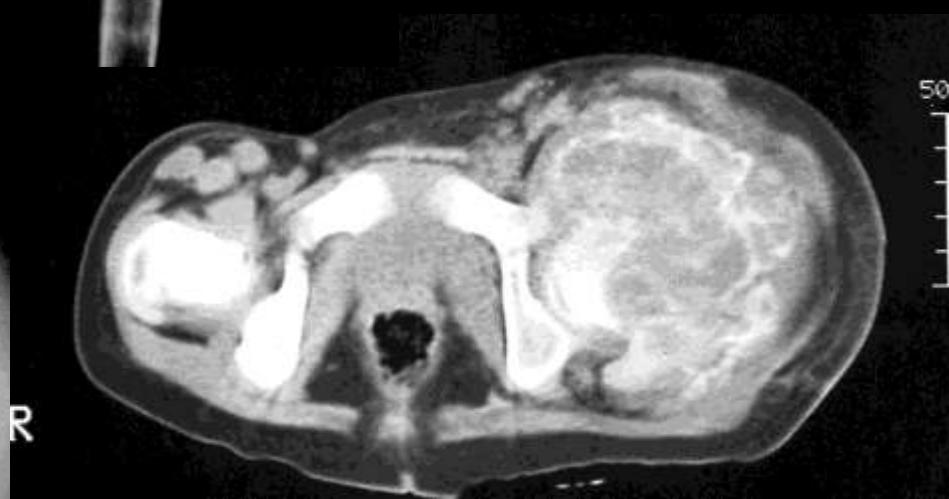
Kyriakos M, Hardy D

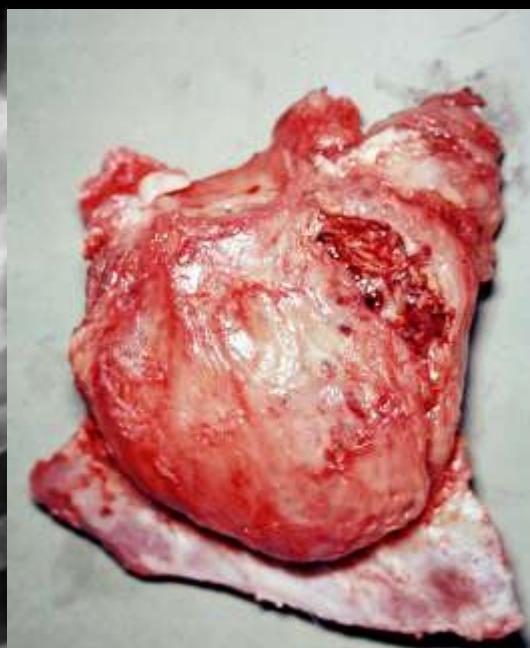
Cancer 68: 1770-80

1991



ABC puede crecer de una manera alarmante







GYREX V3.0
ARMOA JULIO
4915/45
40297-006-1A
18.M

DIAG.POR IMAGENES BANFIELD 9-JAN-97
IR 1566/25 SP 16.3
SE 500 SW 5.0

C1 -243
WI 1782

ZOOM
1.48

GYREX V3.0
ARMOA JULIO
4915/45
40295-005-1A
18.M

DIAG.POR IMAGENES BANFIELD 9-JAN-97
FastSE FE 4000/100.012
SP 5.0
SW 5.0

C1 -529
WI 1846

ZOOM
1.61



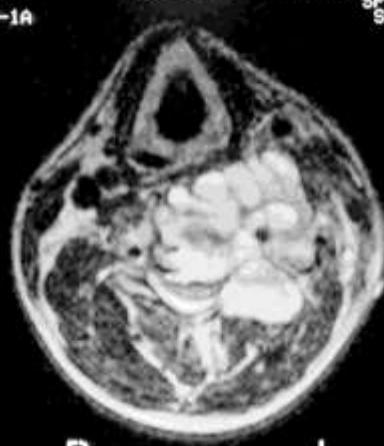
-999

GYREX V3.0
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4915/45
40295-007-1A
18.M

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SW 5.0

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WI 1846

ZOOM
1.61



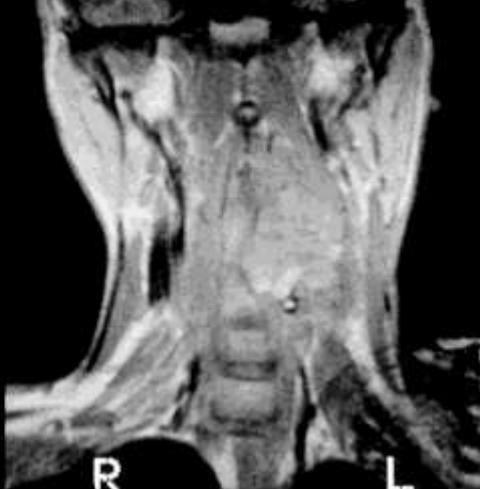
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18.M

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SW 5.0

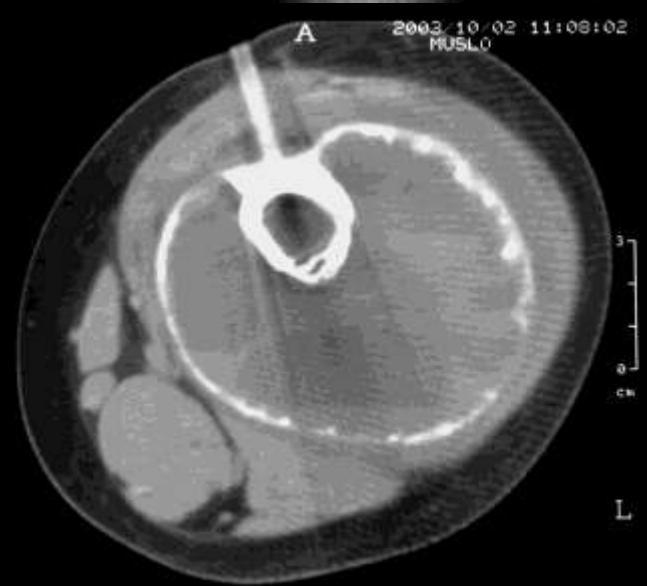
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ZOOM
1.48



L

-999

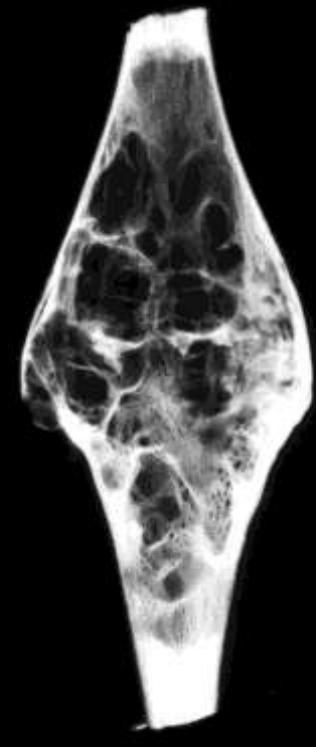


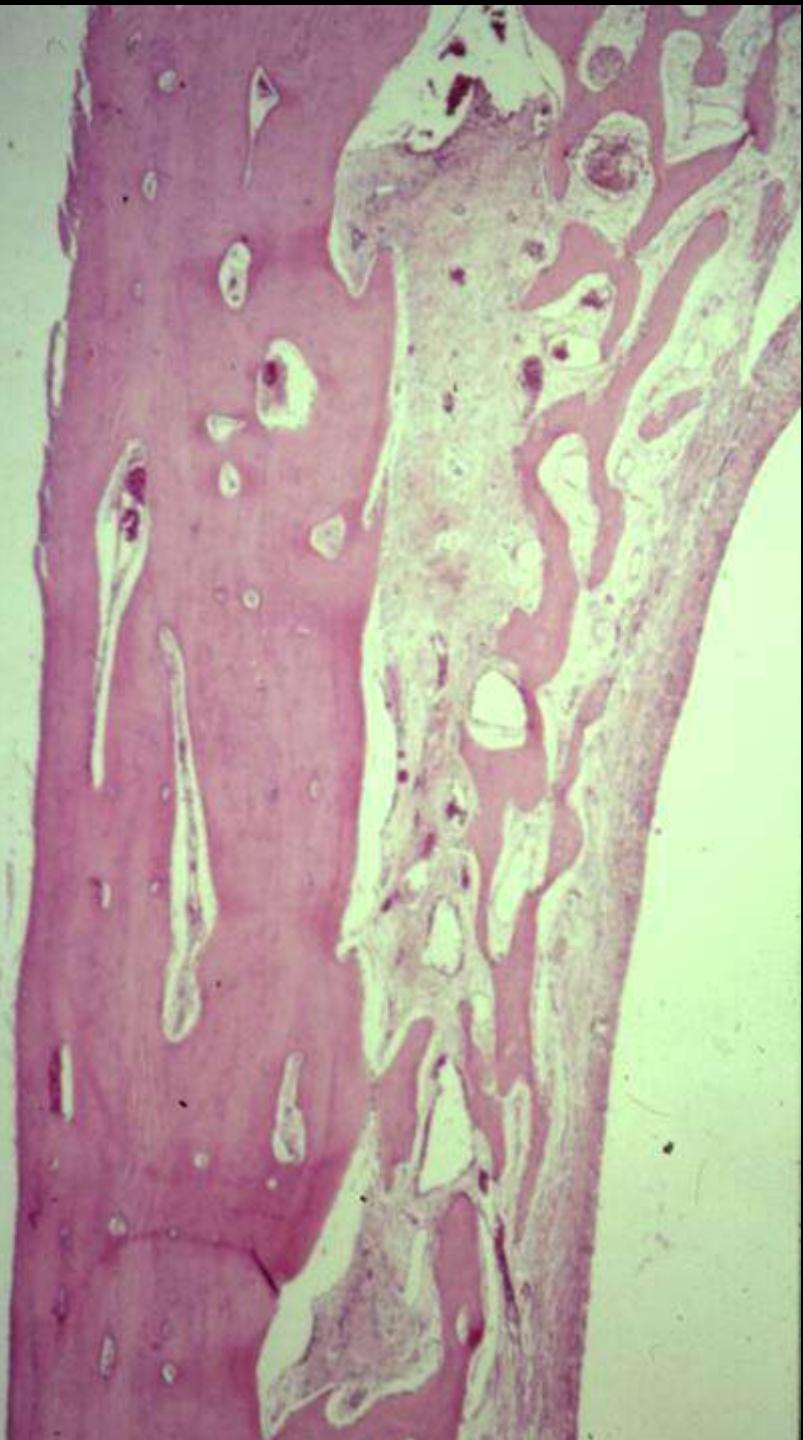


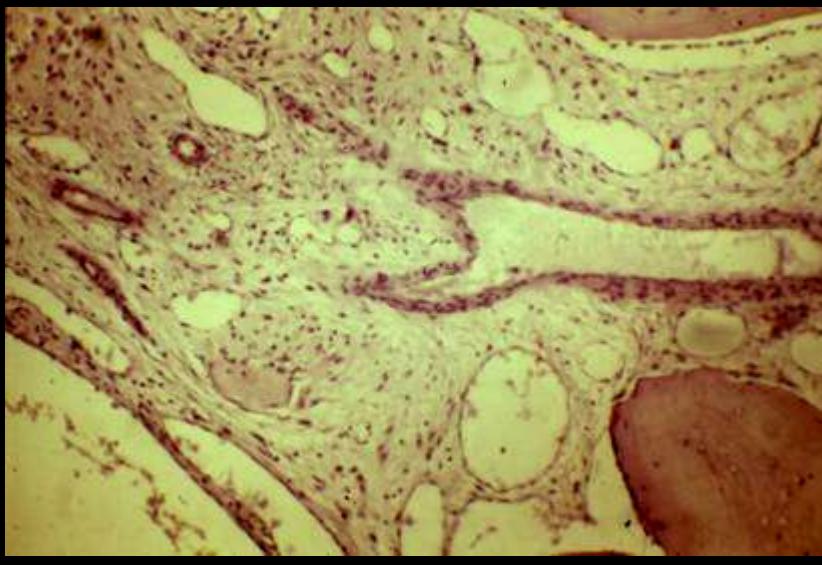
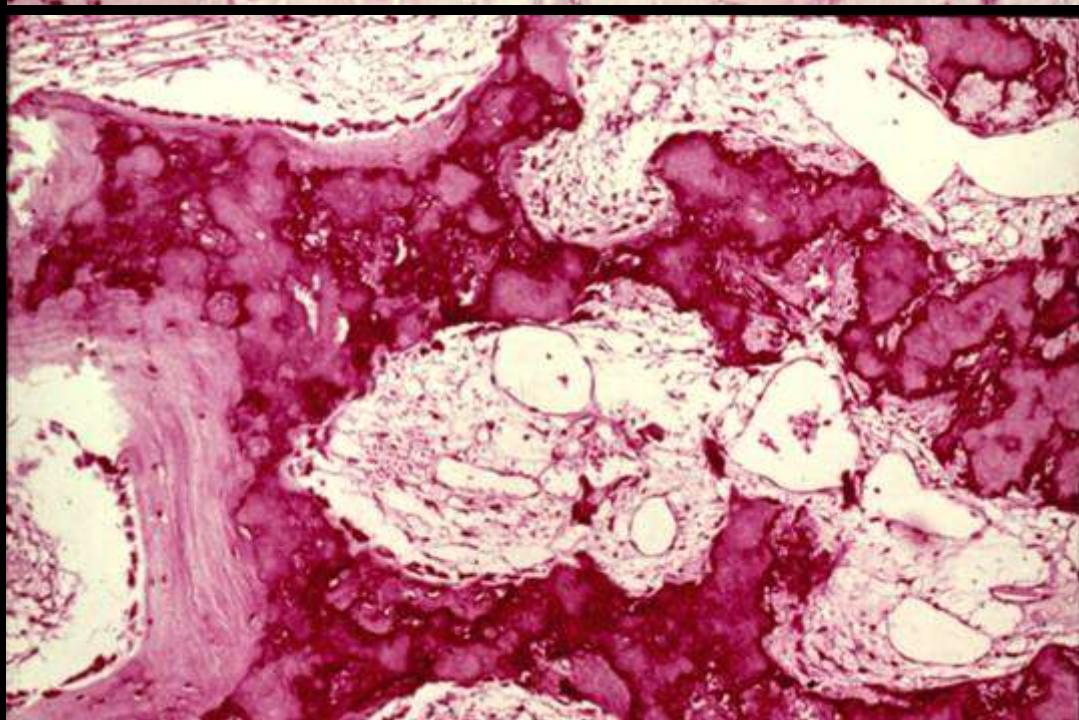
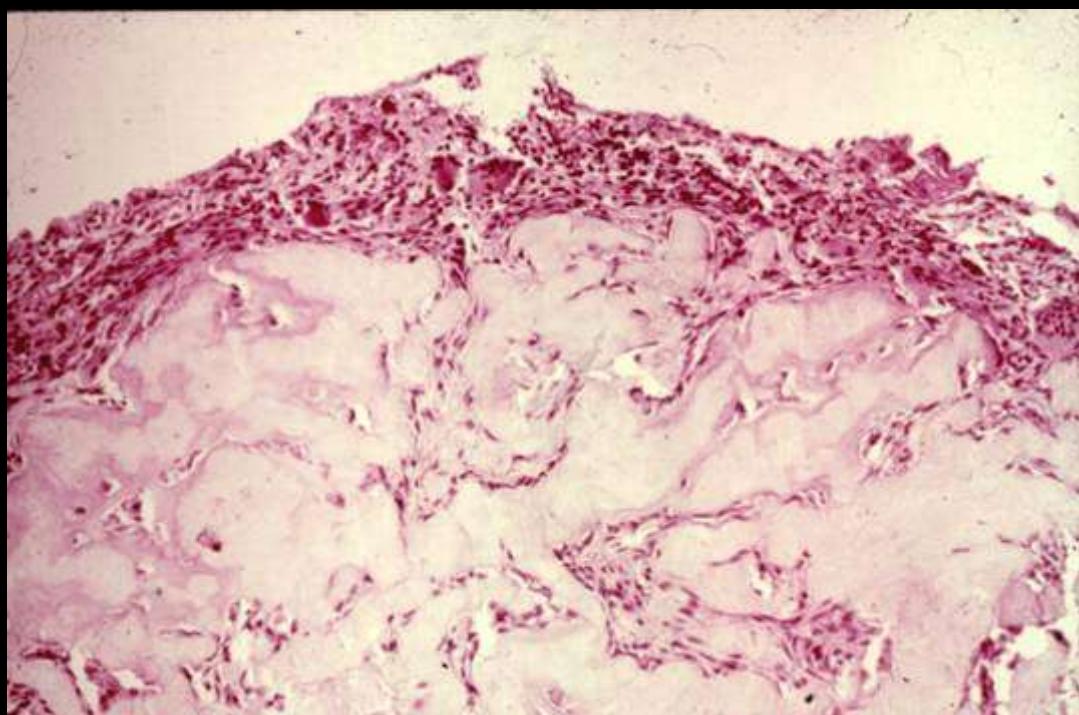
Diagnósticos Diferenciales

- Quiste Óseo Simple
- Quiste Hidatídico
- Tumor de Células Gigantes
- Osteosarcoma Telangiectásico
- Osteosarcoma con QOA 2rio

QOA Vs. QUISTE OSEO SIMPLE

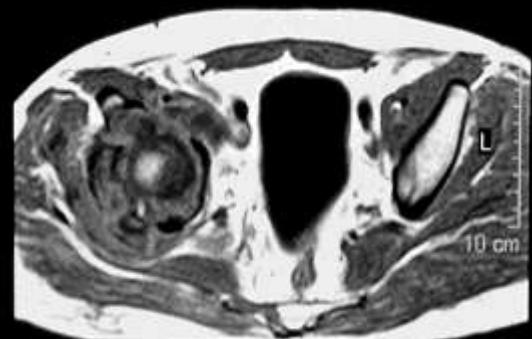
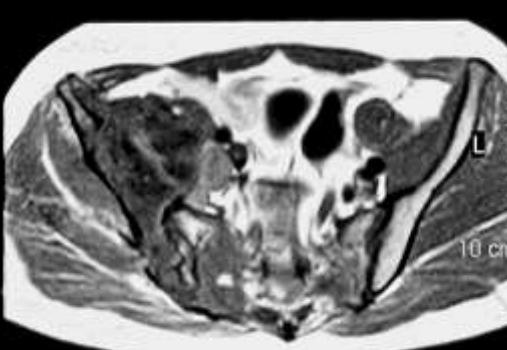
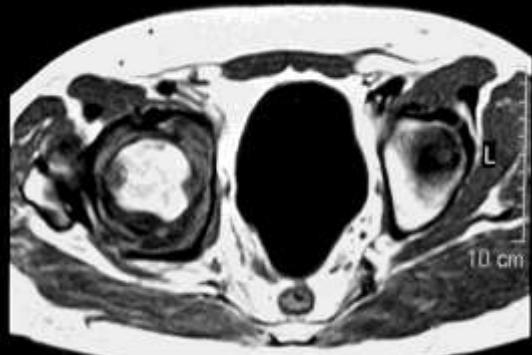








Hidatidosis ósea

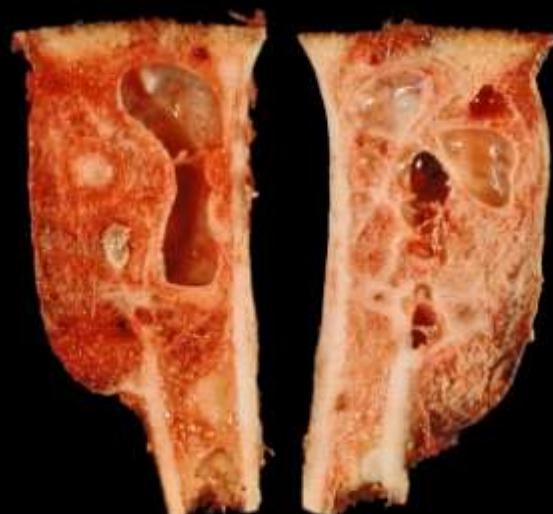


IRNA IZQUIERDA
lt extremity
May 2004 11:51
ce: 7 (16)
s: -11.1 mm

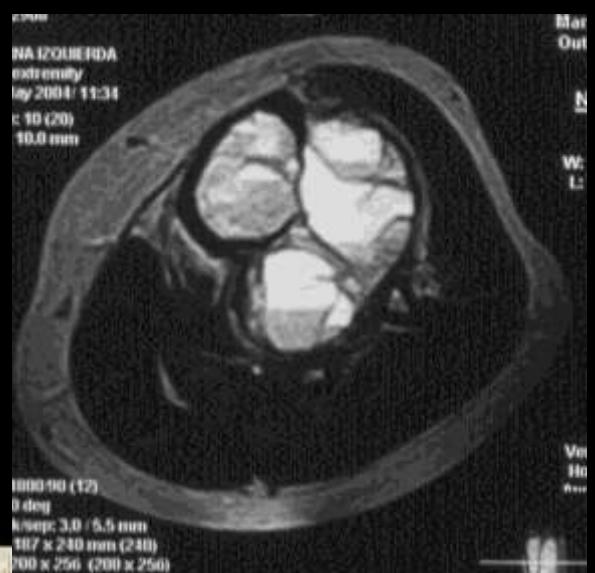
28.1 mm

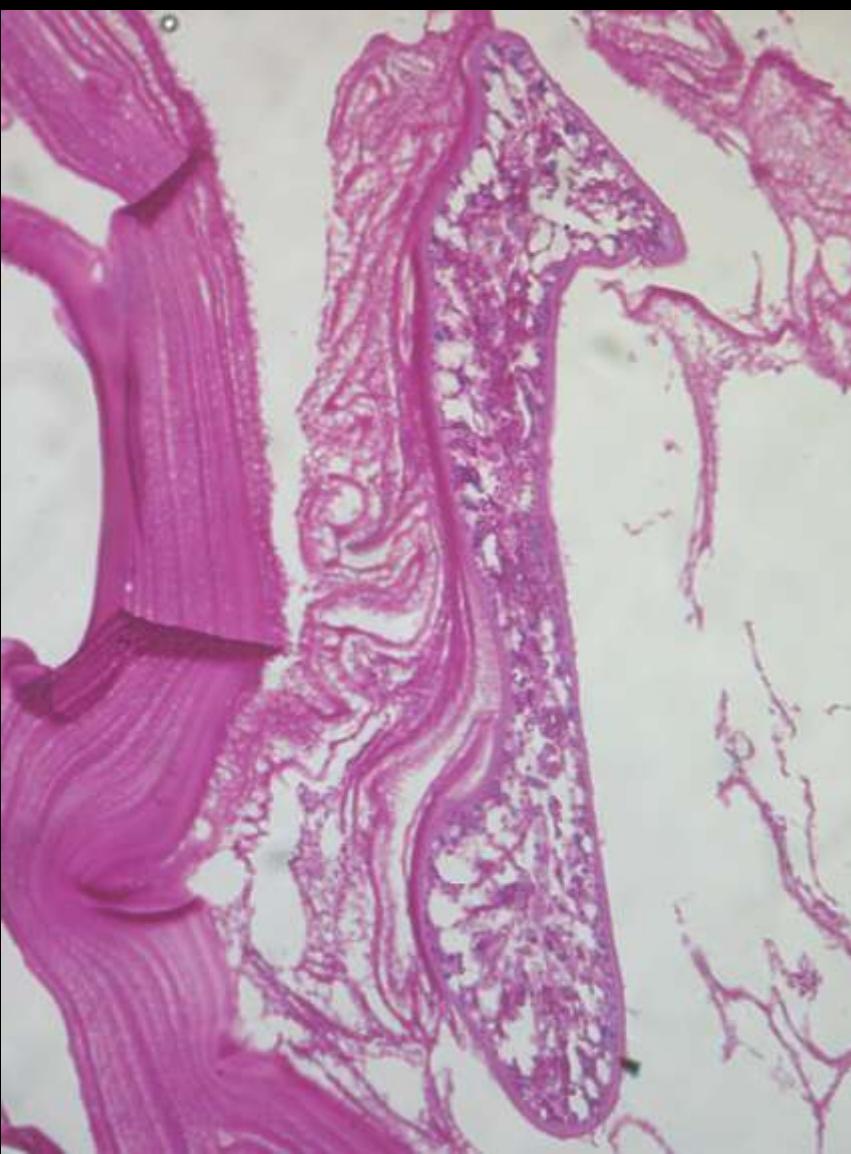
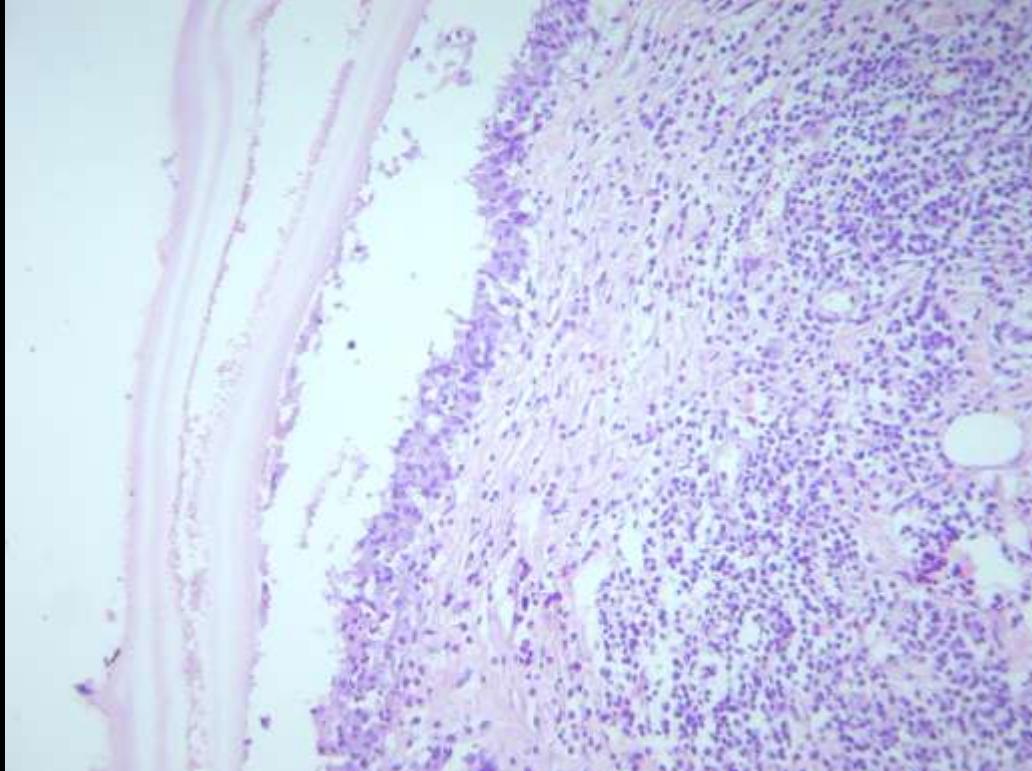
G OBL.
E-460/20 (2)
: 90 deg
thk/sep: 4.0 / 5.0 mm
V: 250 x 250 mm (250)
H: 320 x 320 (256 x 256)
min 57 sec (1 ave(s))

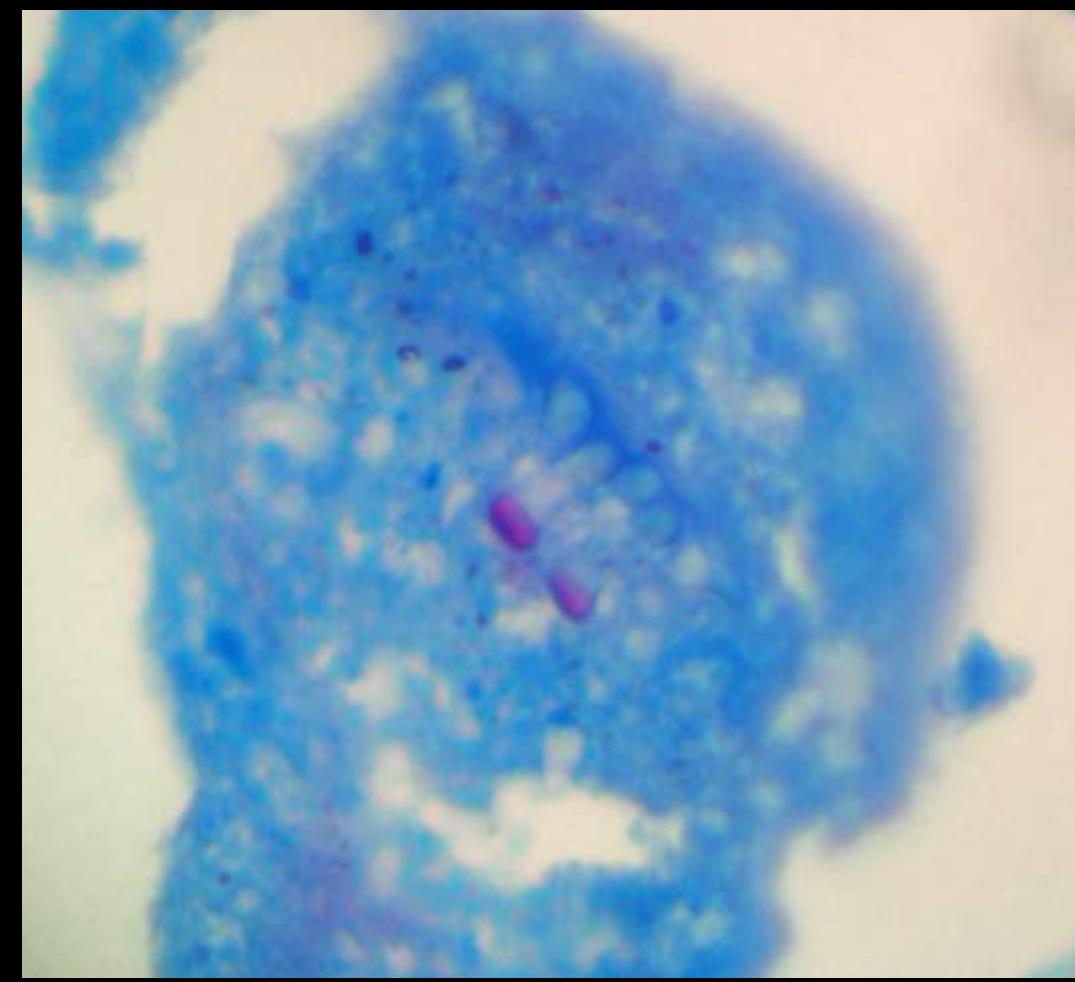
0 ml/kg GADOLINEO



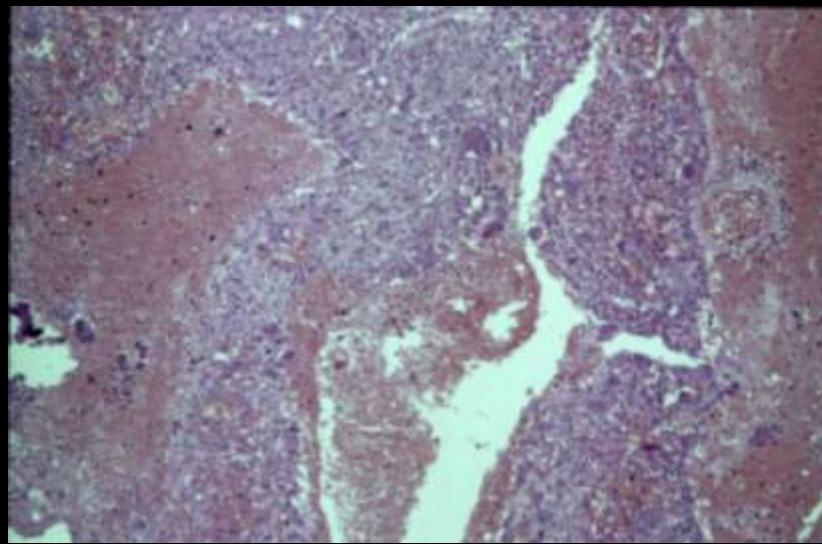
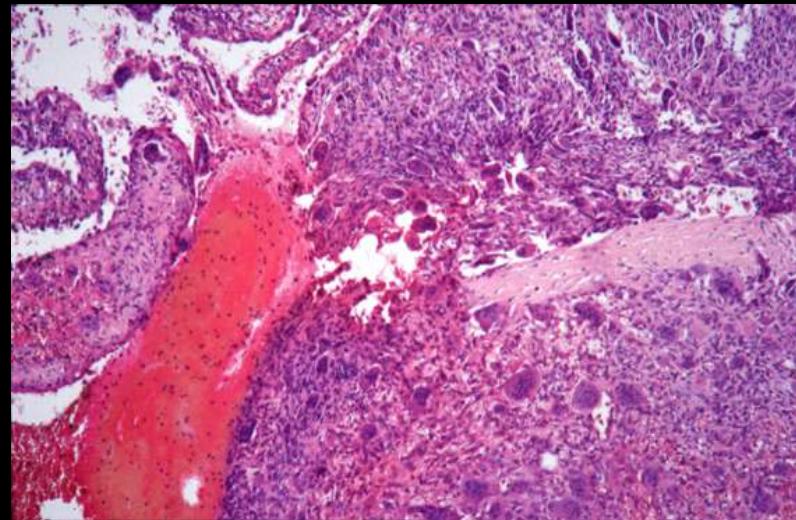
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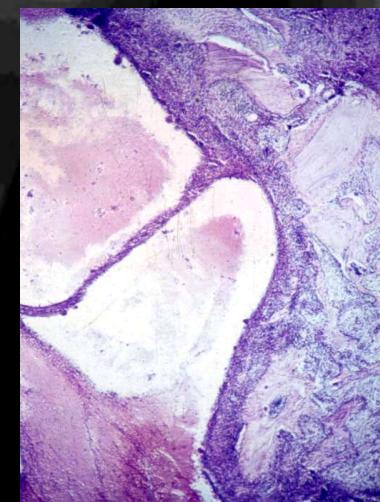
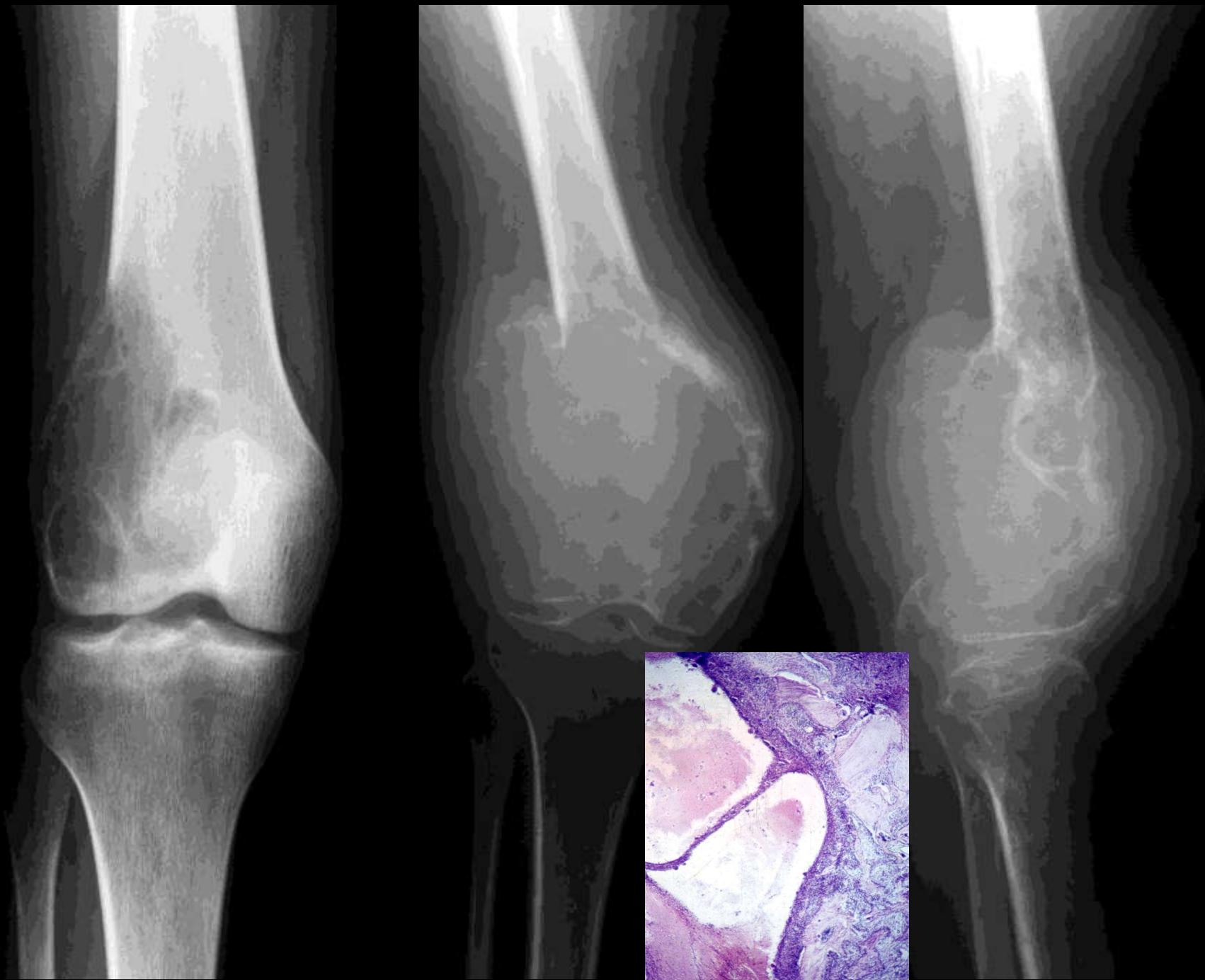


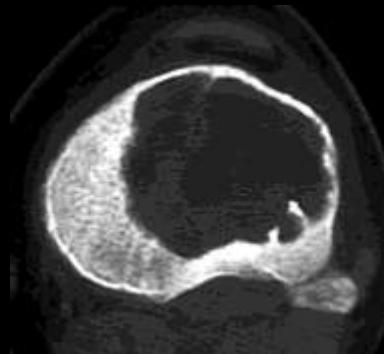




QOA Vs. TUMOR DE CELULAS GIGANTES

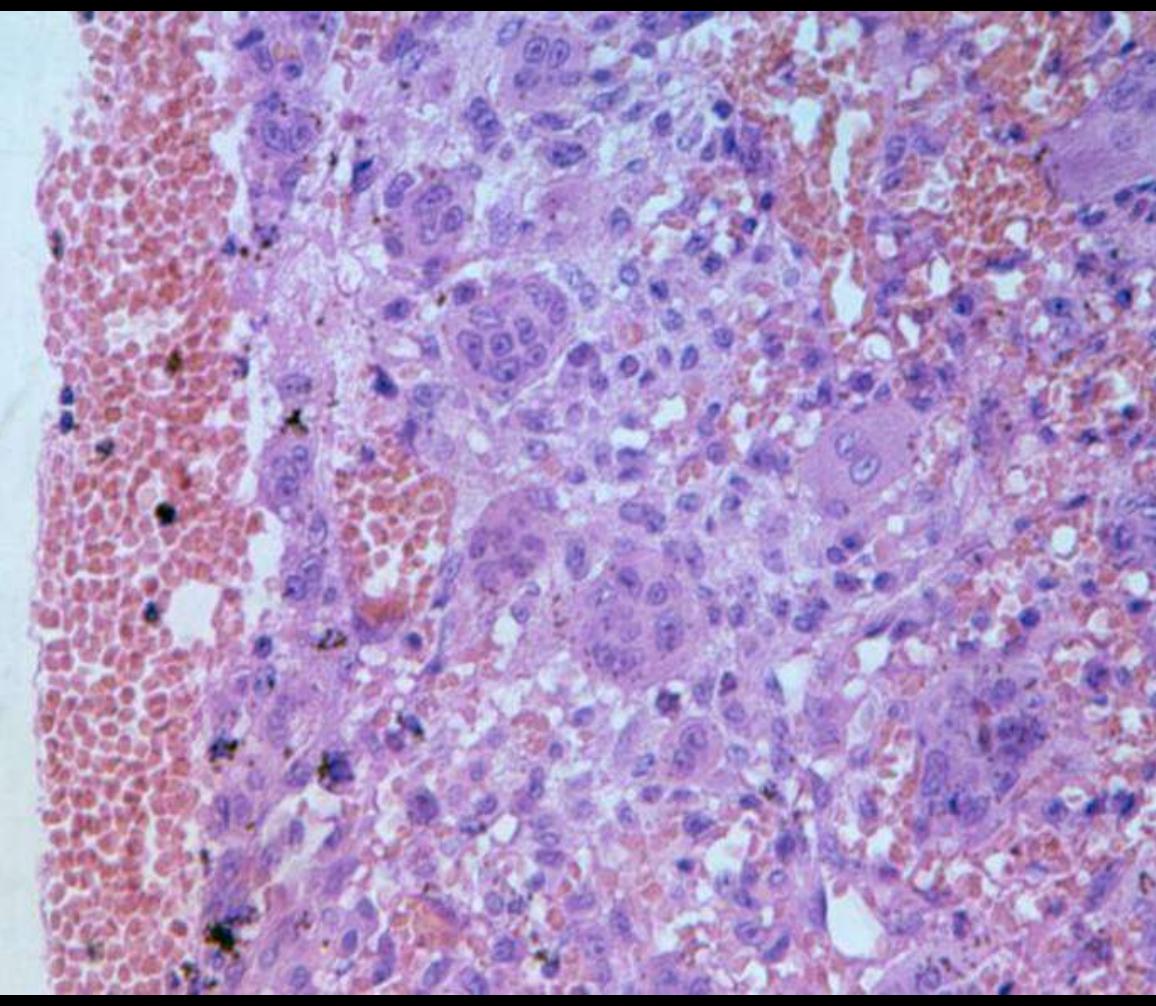
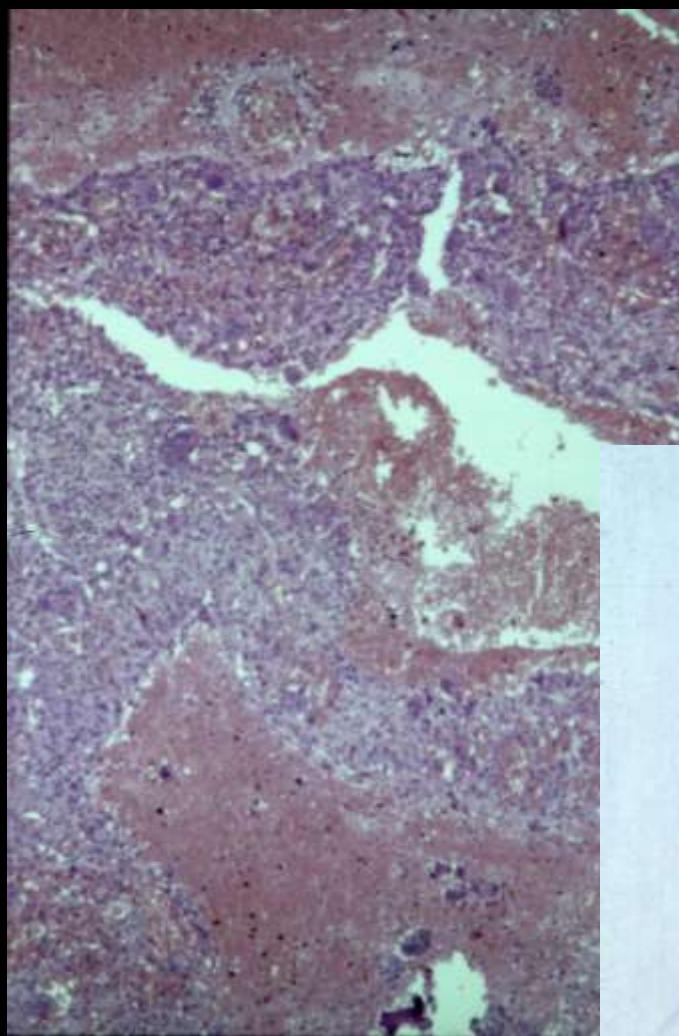




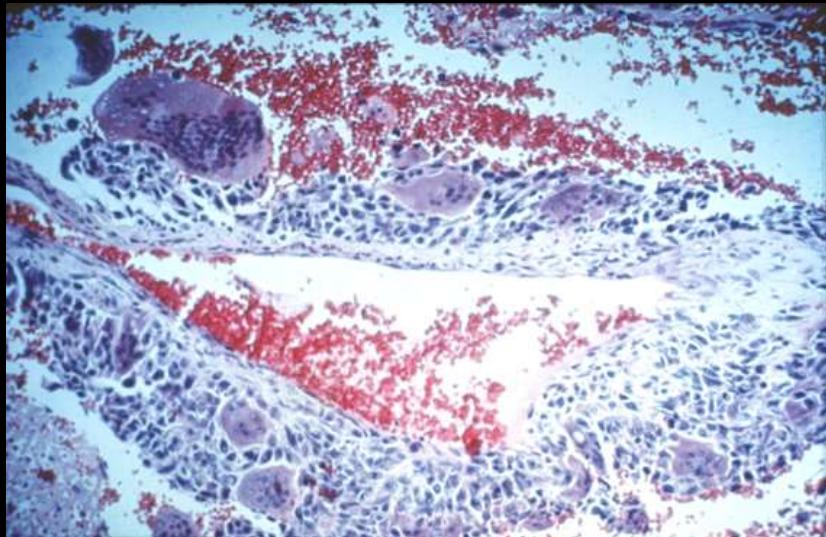
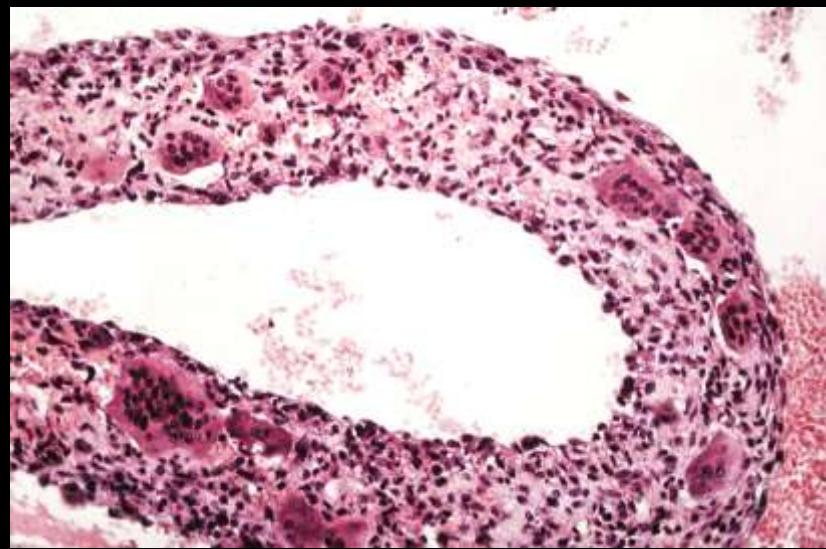


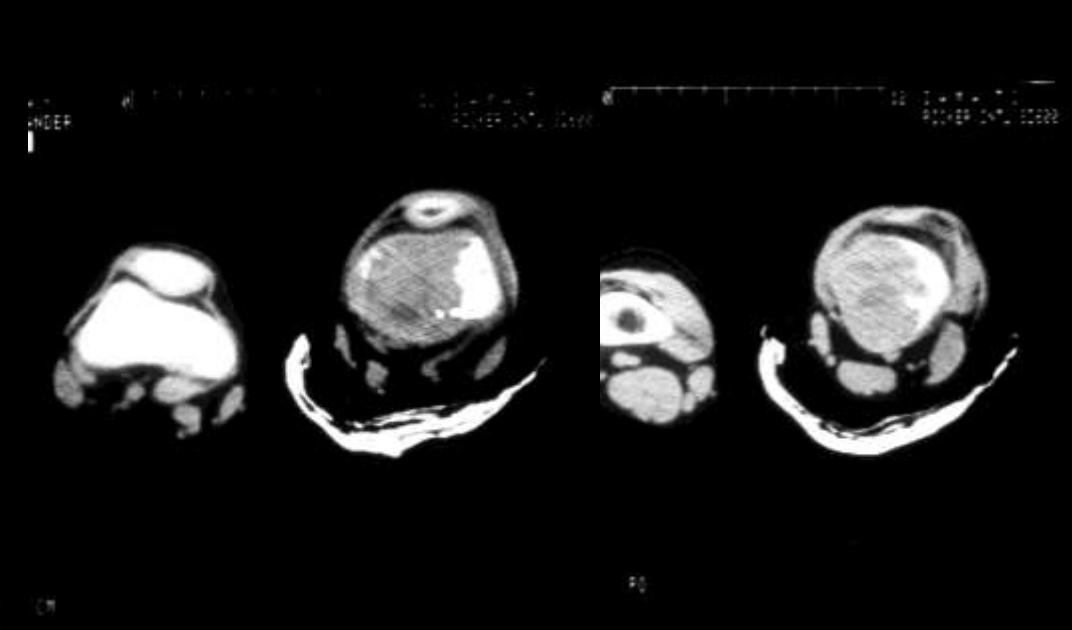
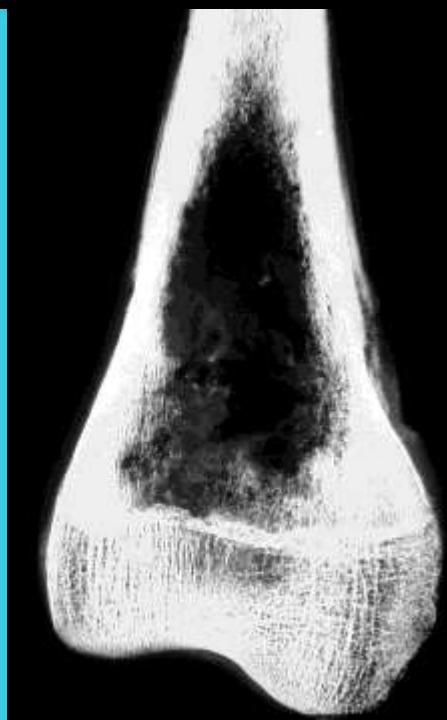
+1.25cm w+ +0.13cm F L





QOA Vs. OSTEOSARCOMA TELANGIECTASICO

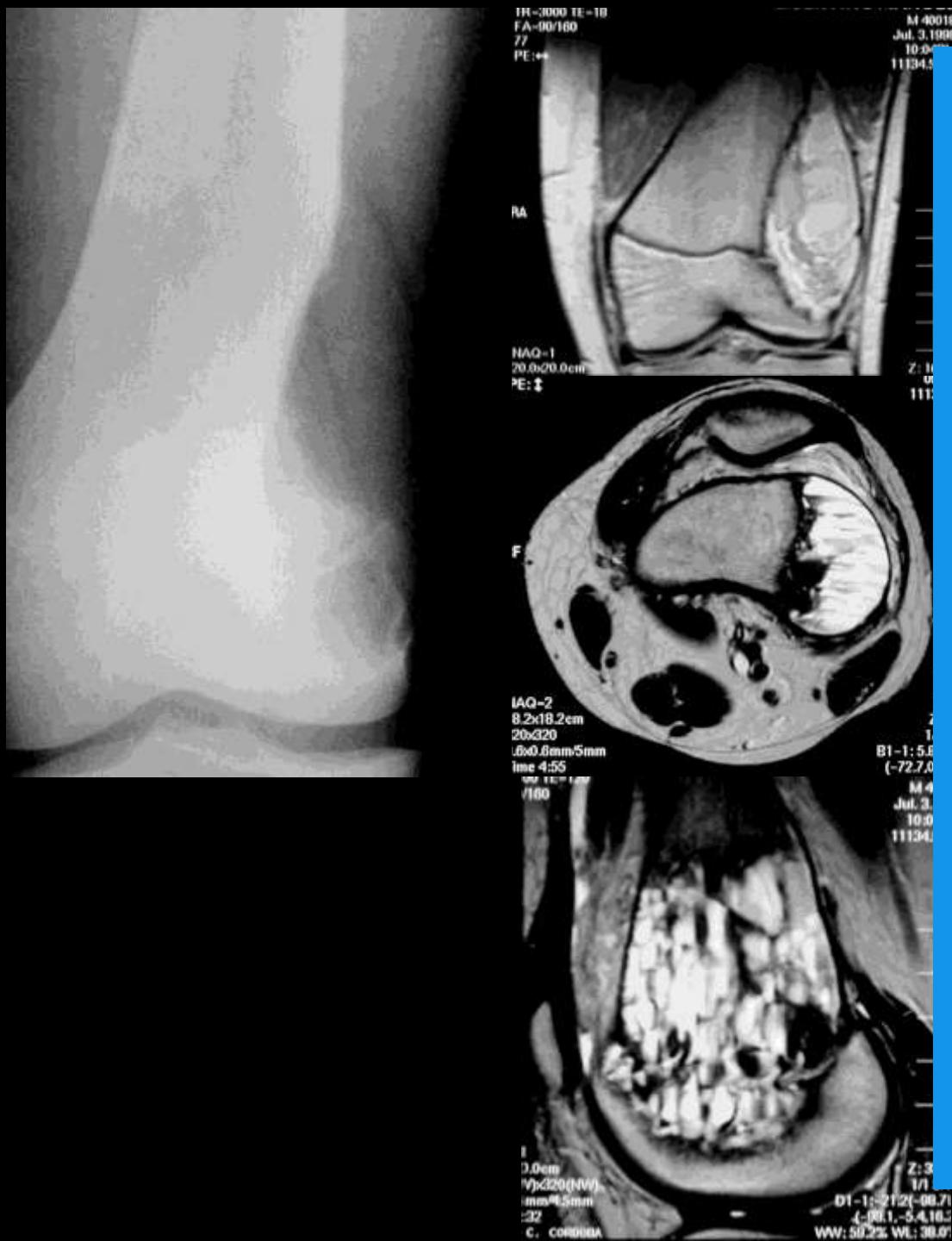


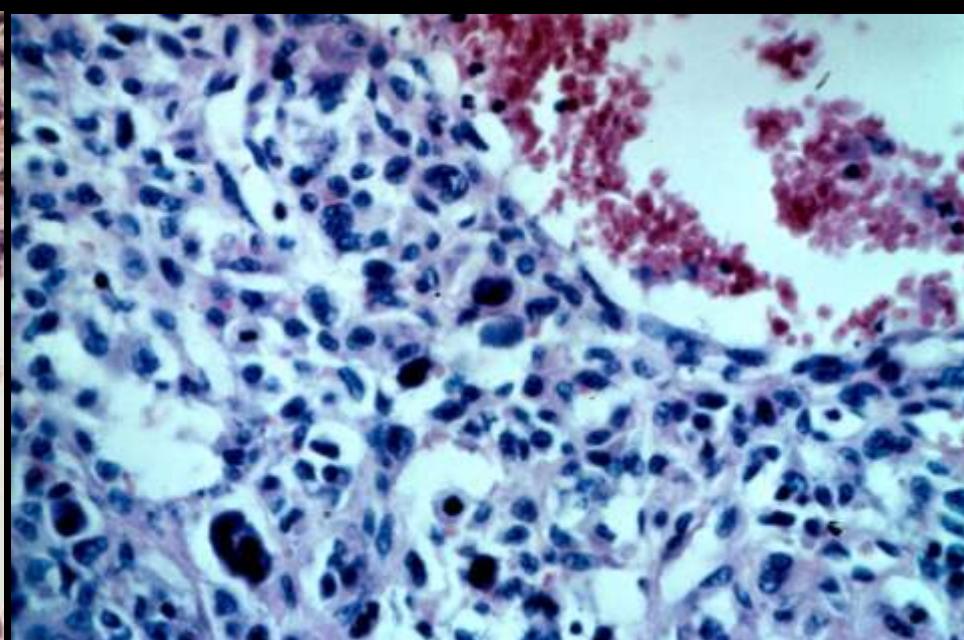
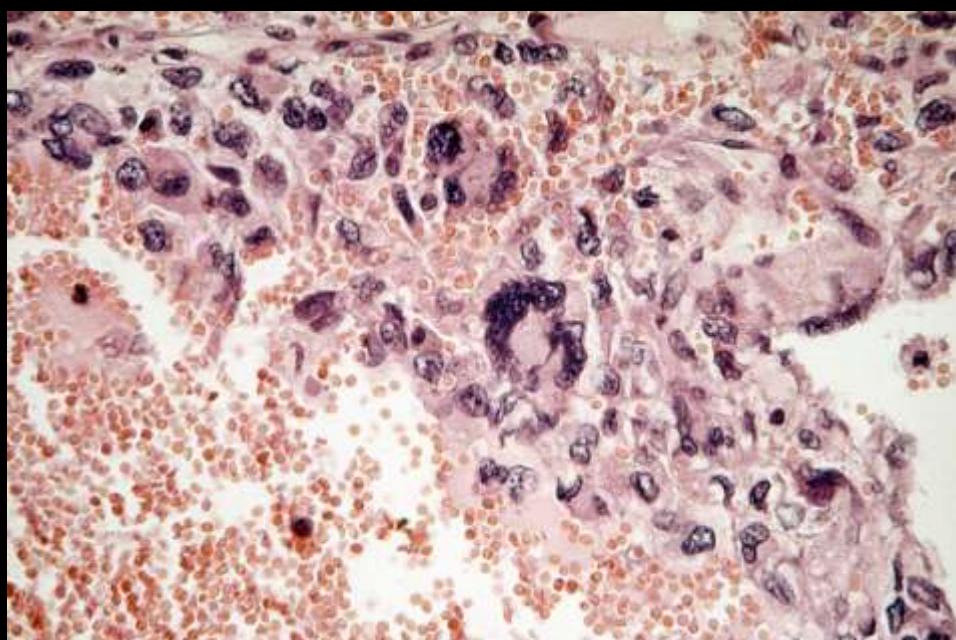
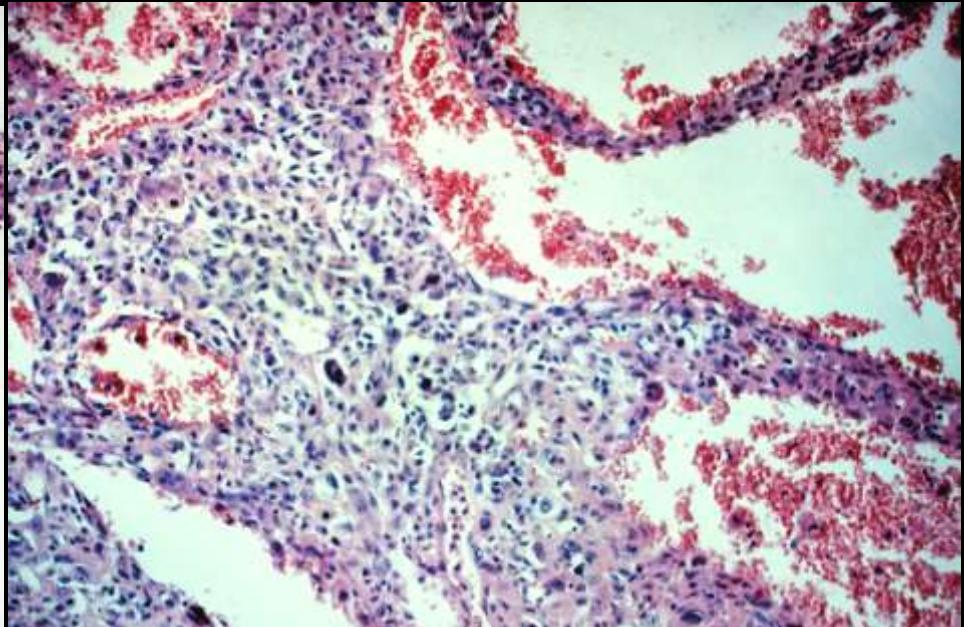
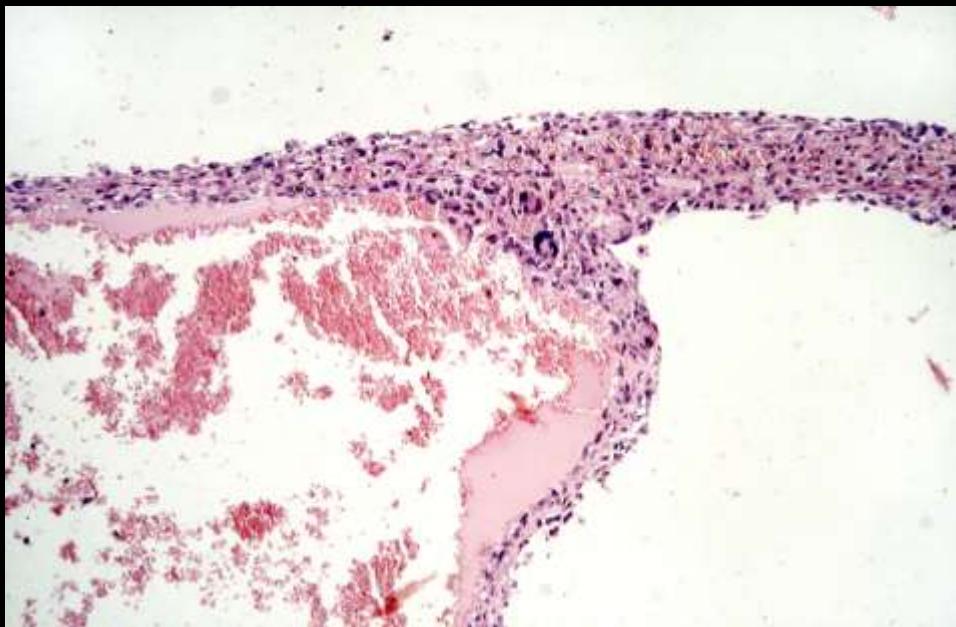


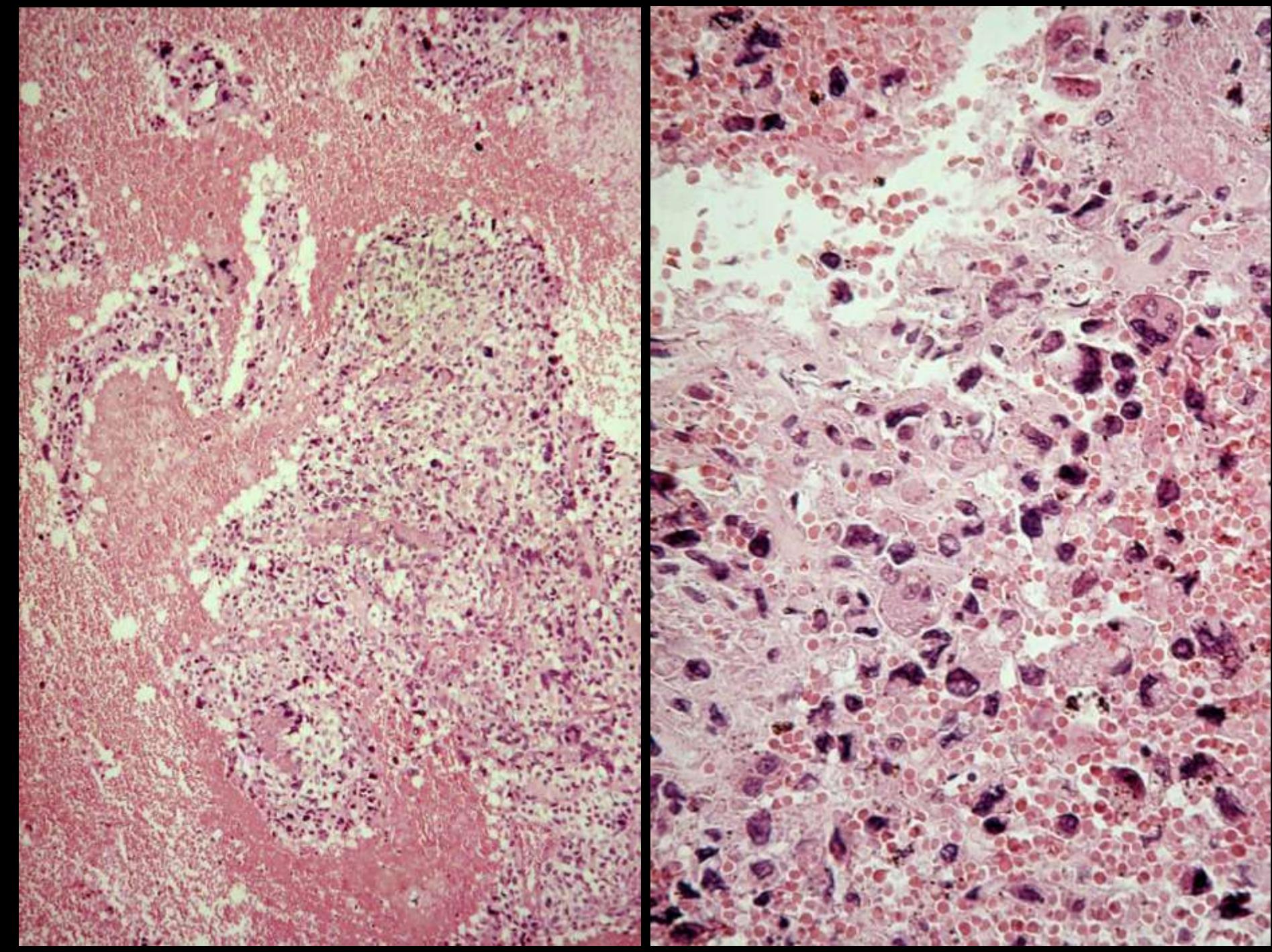
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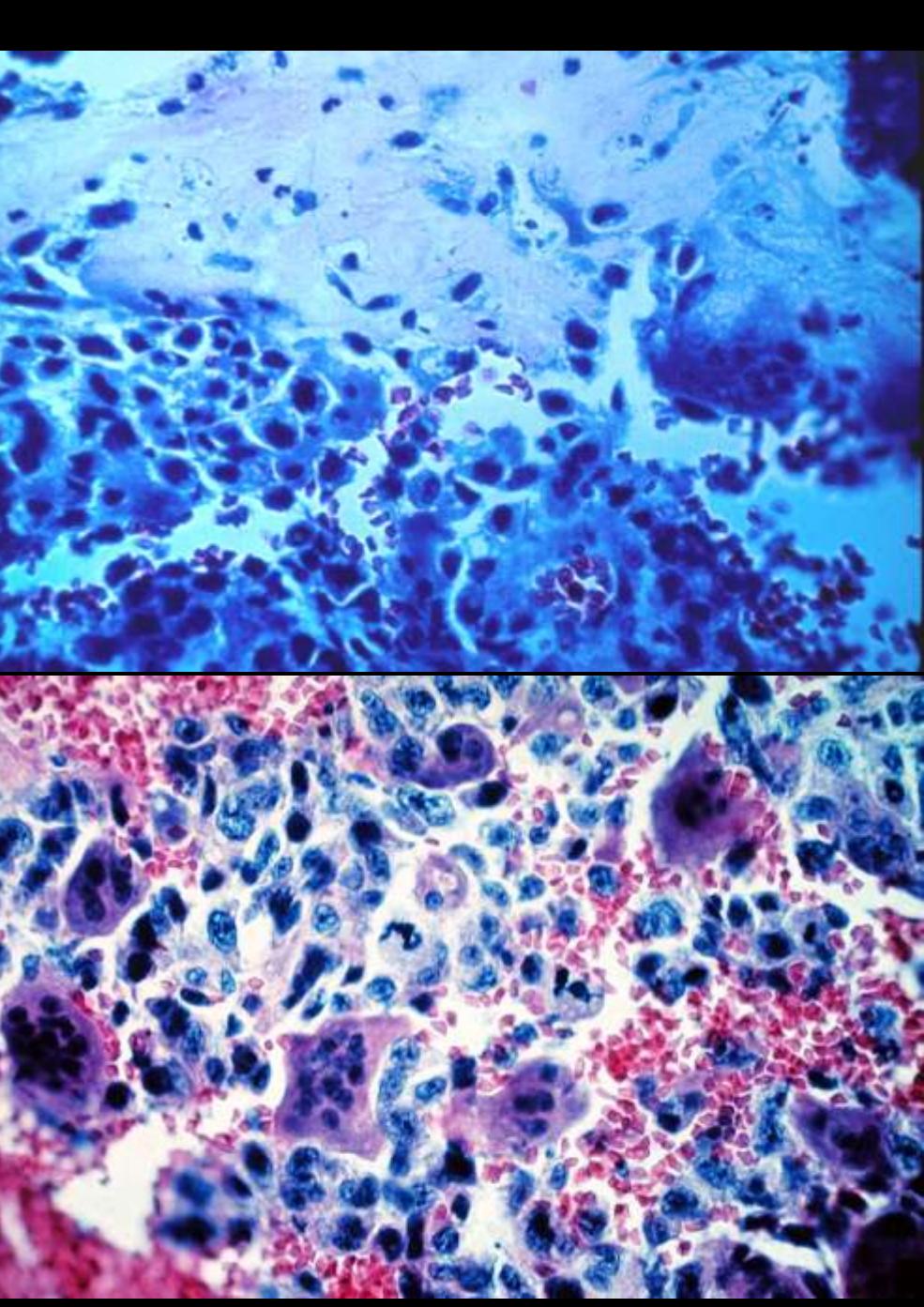
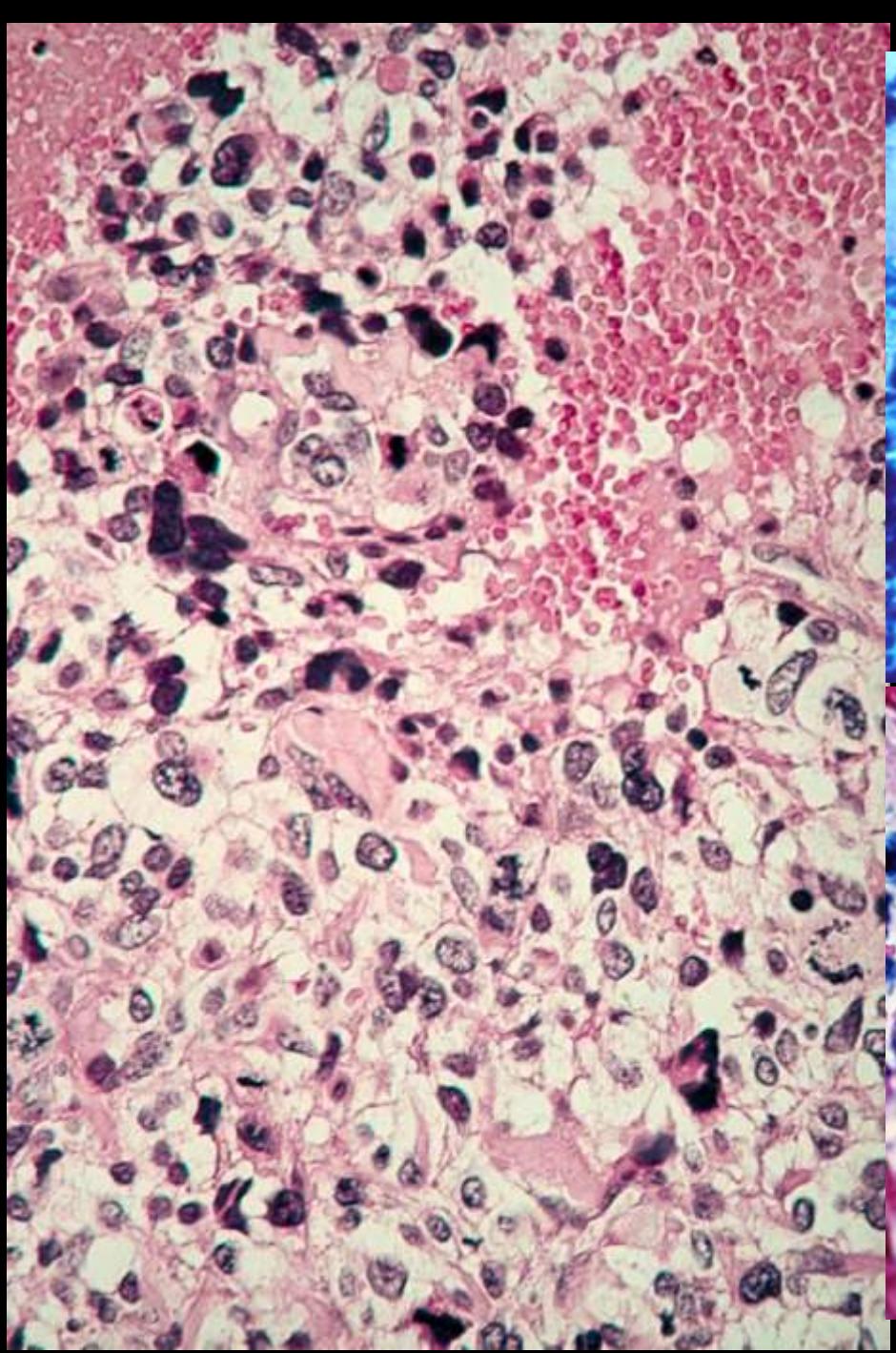
463











DAHLIN'S BONE TUMORS

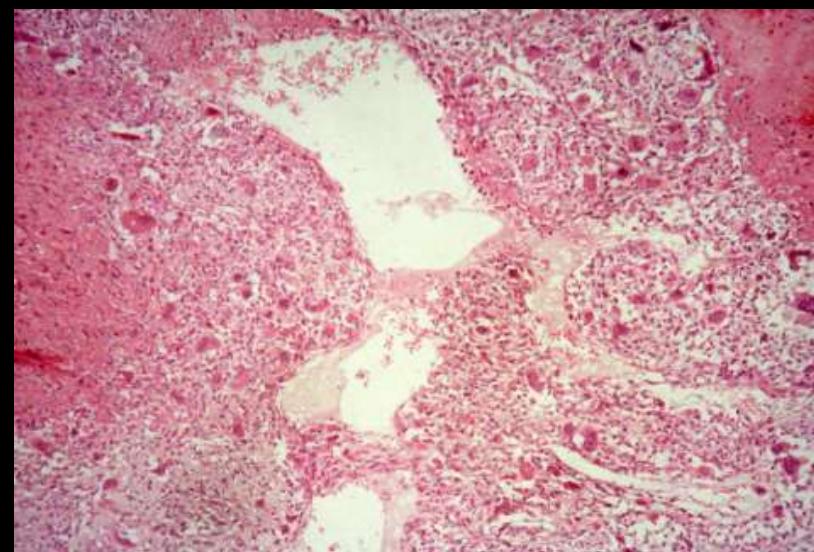
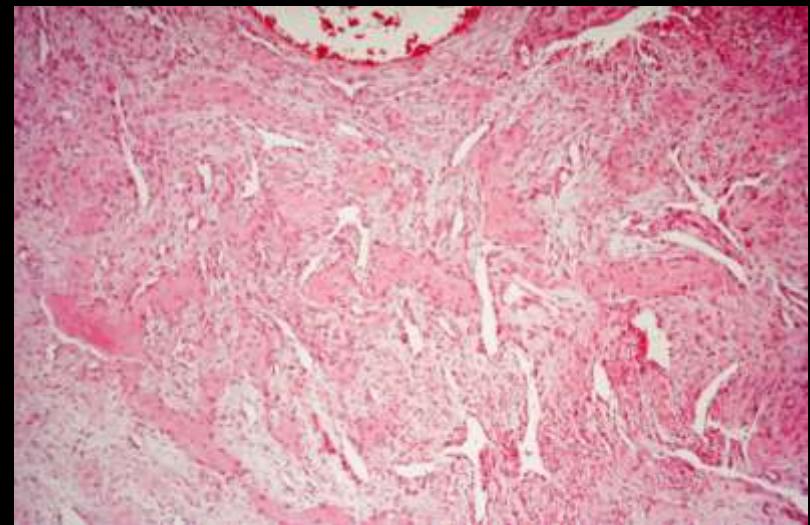
K. Krishnann Unni

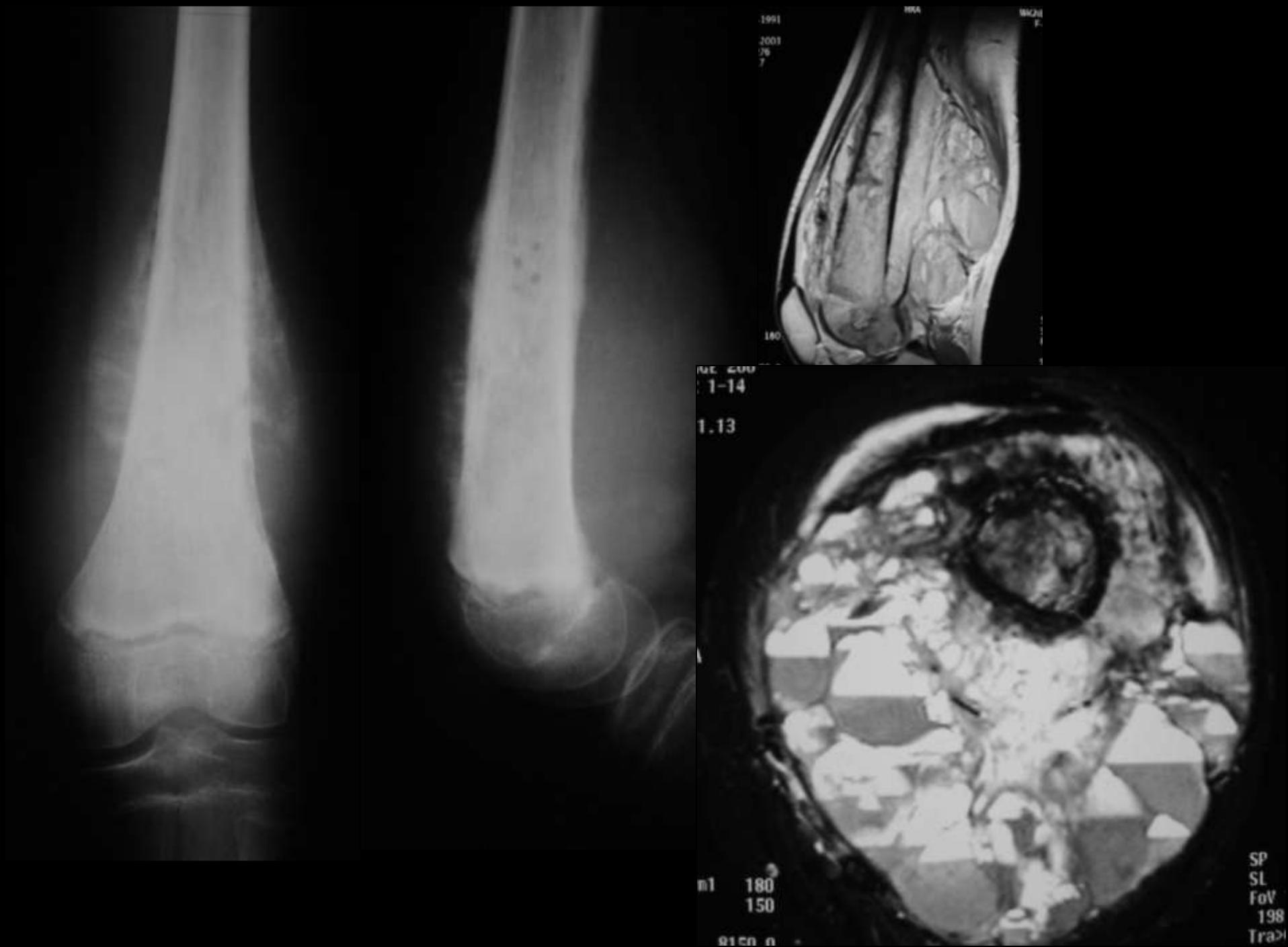
Lippincot-Raven 5th Ed.
Philadelphia- New York

1996

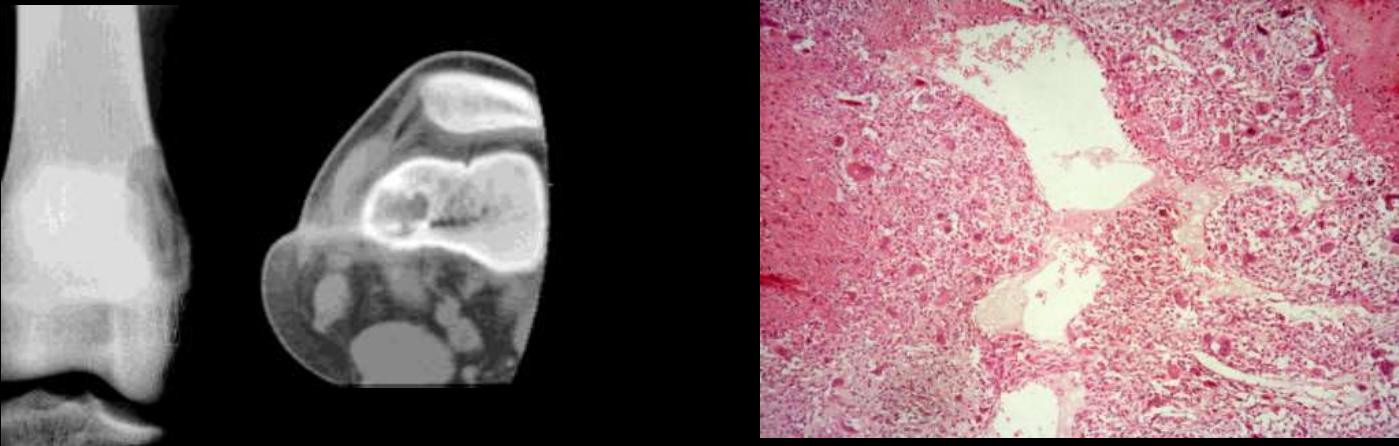
“The most difficult differential diagnosis is telangiectatic osteosarcoma. The low-power appearance of a telangiectatic osteosarcoma may be exactly like that of an aneurysmal bone cyst”.

QOA Vs. OSTEOSARCOMA con AREAS de QOA

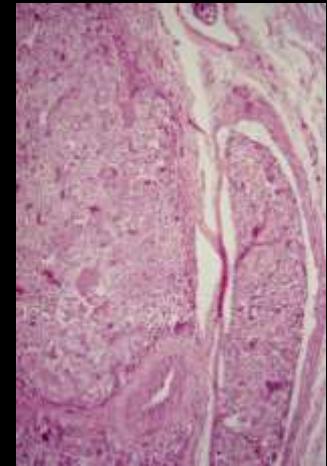
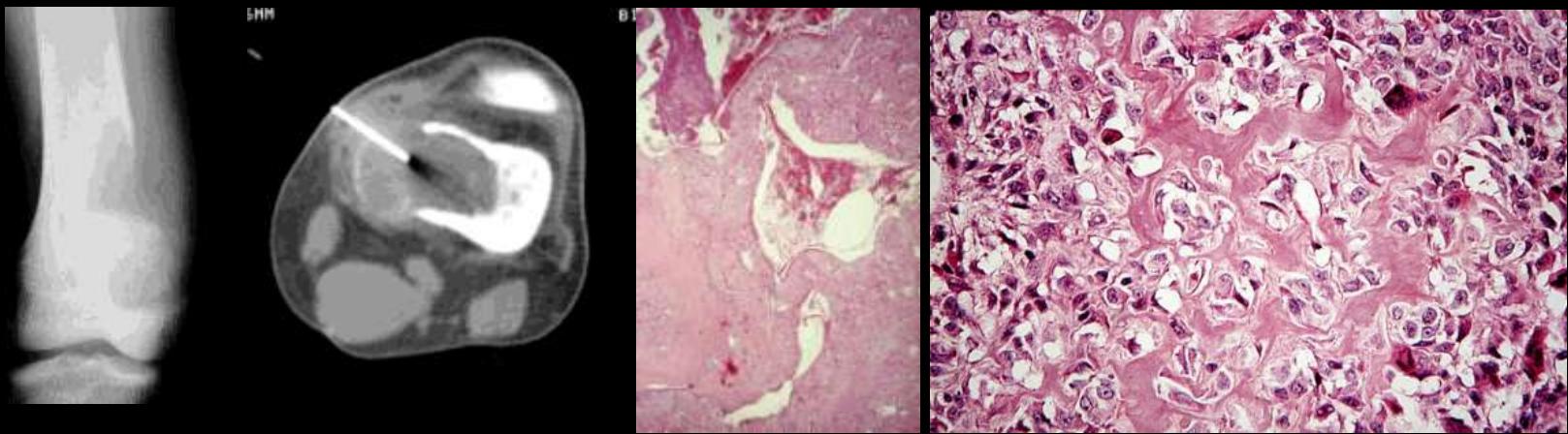




1st Bx



2nd Bx



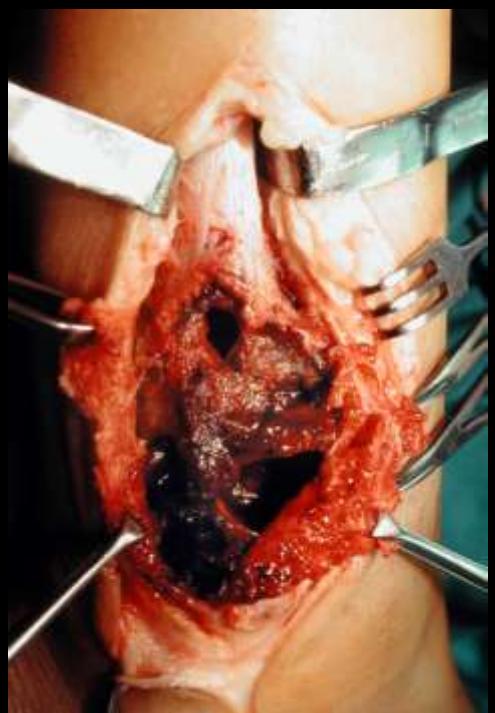
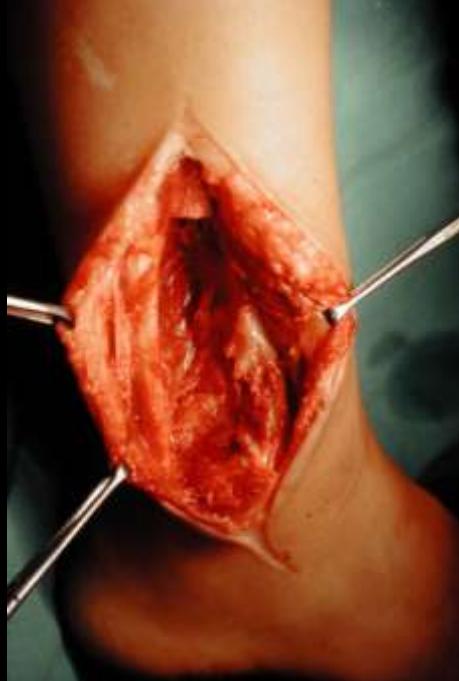
ABC TRATAMIENTO

- escisión
- curetaje
- ~~radiación~~

+ injerto óseo

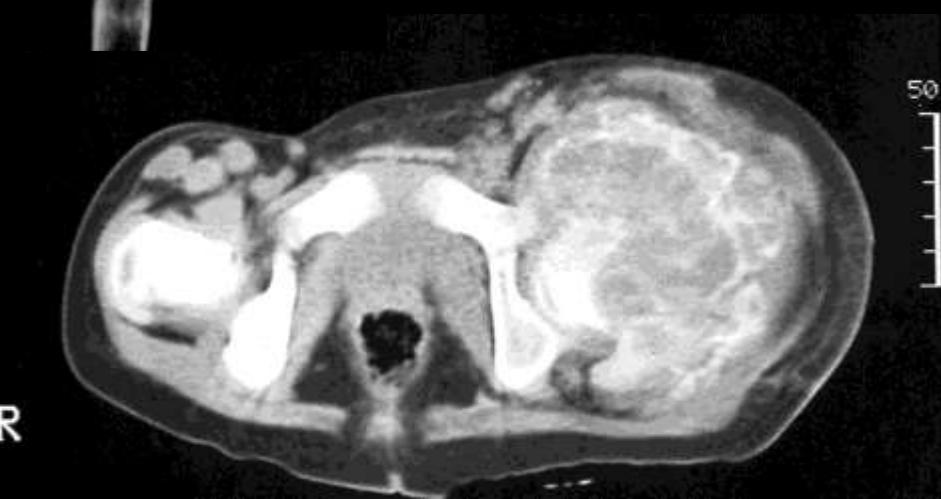
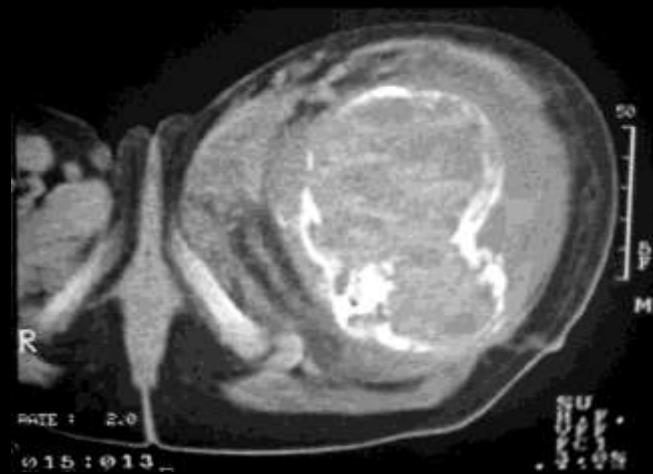
tratamiento quirúrgico
adyuvante

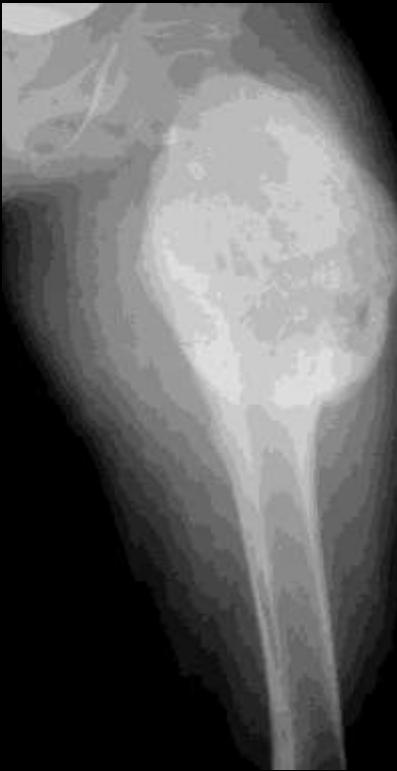
- criocirugía
- cauterización
química











III - 5 - 91



I - 9 - 92



VII - 13 - 94



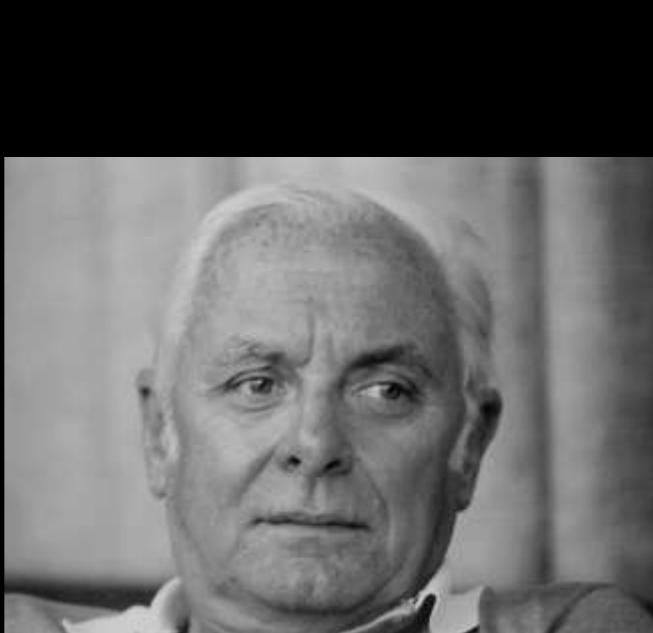
XII – 10 - 96





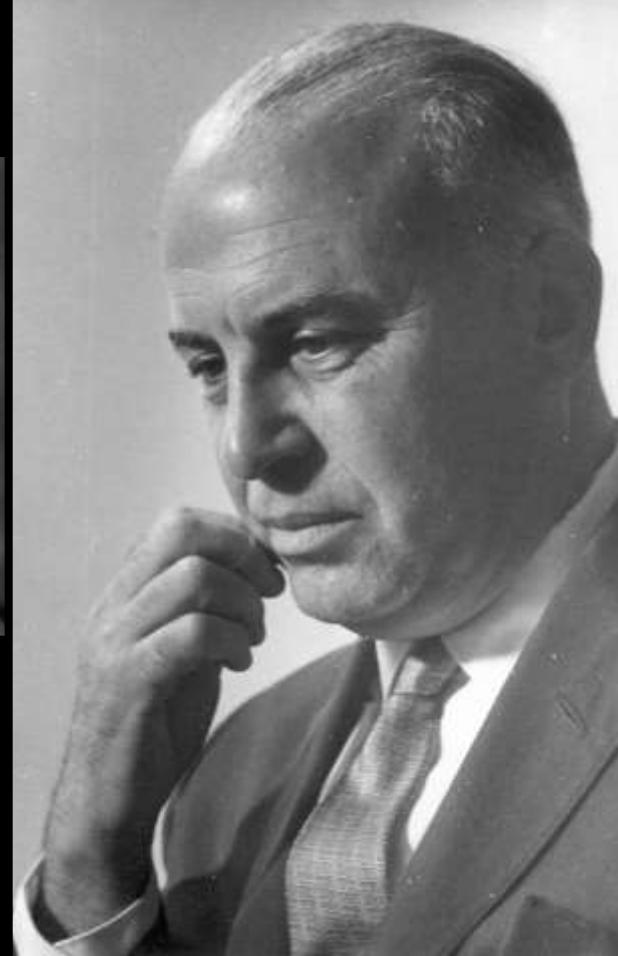
Dr. Fritz Schajowicz

1911-1992



Dr. Juan Cruz Derqui

1927-2003



Dr. Carlos Ottolenghi

1904-1984