Osteosarcoma Vs. Osteoblastoma

ZARAGOZA .SEAP-IAP. 2011

HGRL 601
Hospital Militar Central
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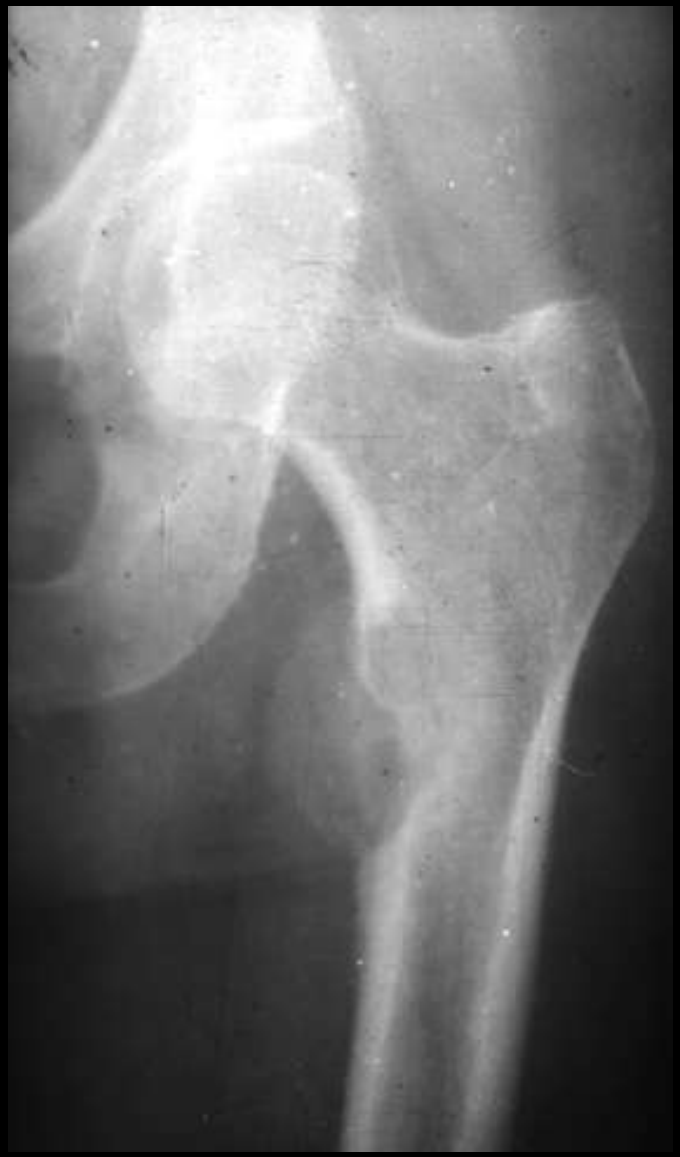
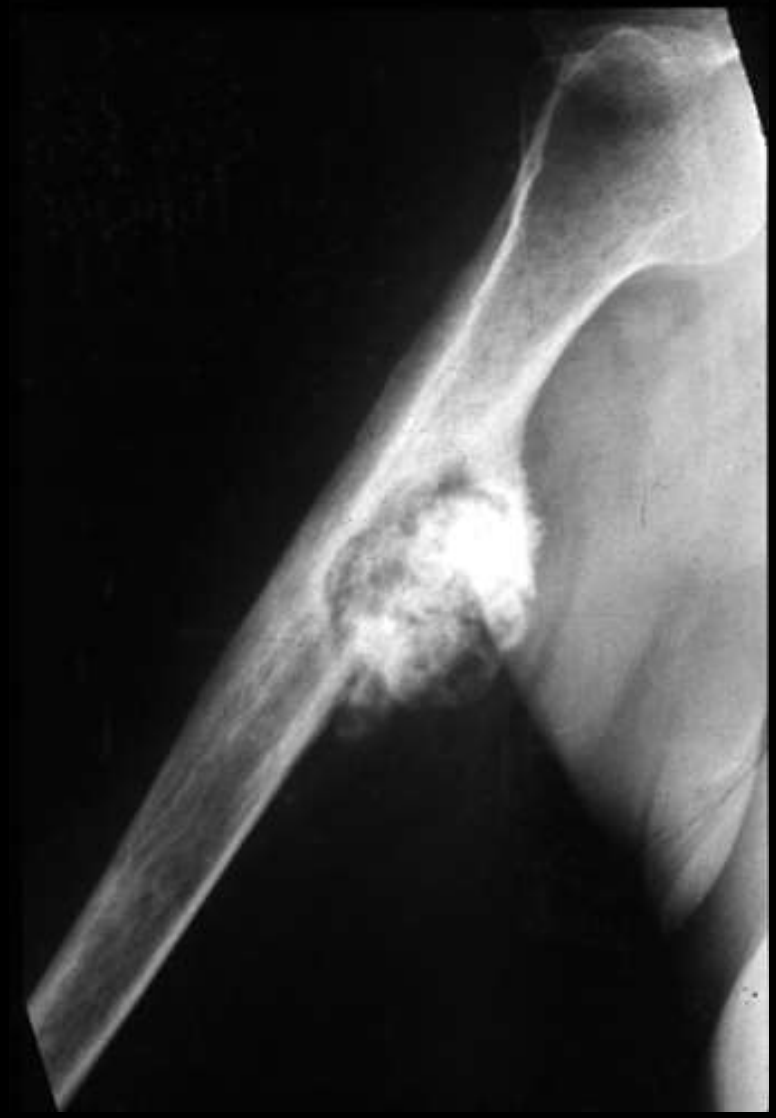
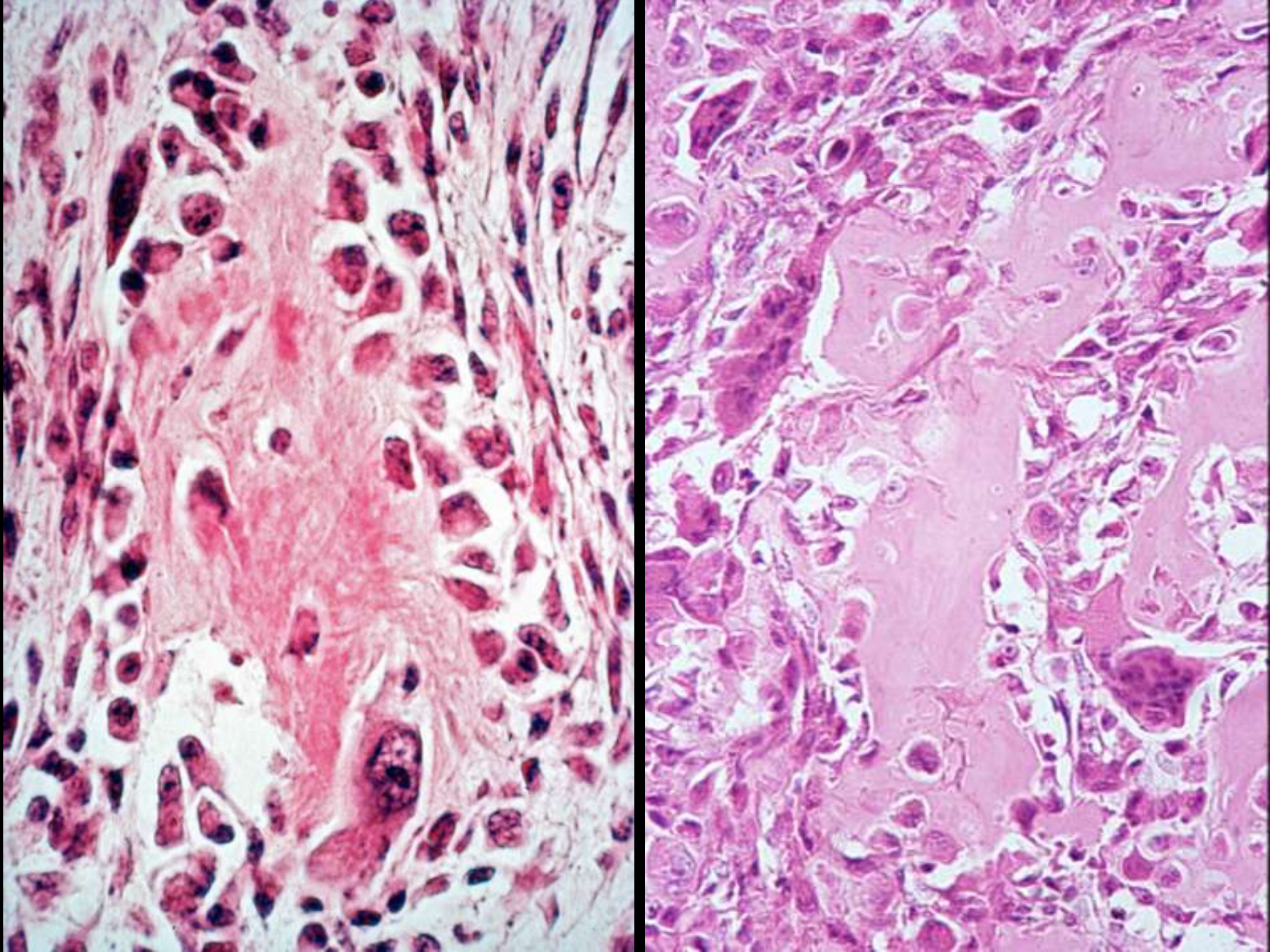
PATOLOGIA
ORTOPEDICA
BUENOS AIRES

UNIVERSIDAD DE BUENOS AIRES
FACULTAD DE MEDICINA
FACULTAD DE ODONTOLOGIA

OSTEOBLASTOMA Vs. OSTEOSARCOMA







Benign Osteoblastoma

Jaffe HL
Bull Hosp. Joint Dis
17: 141-151

1956

Benign Osteoblastoma

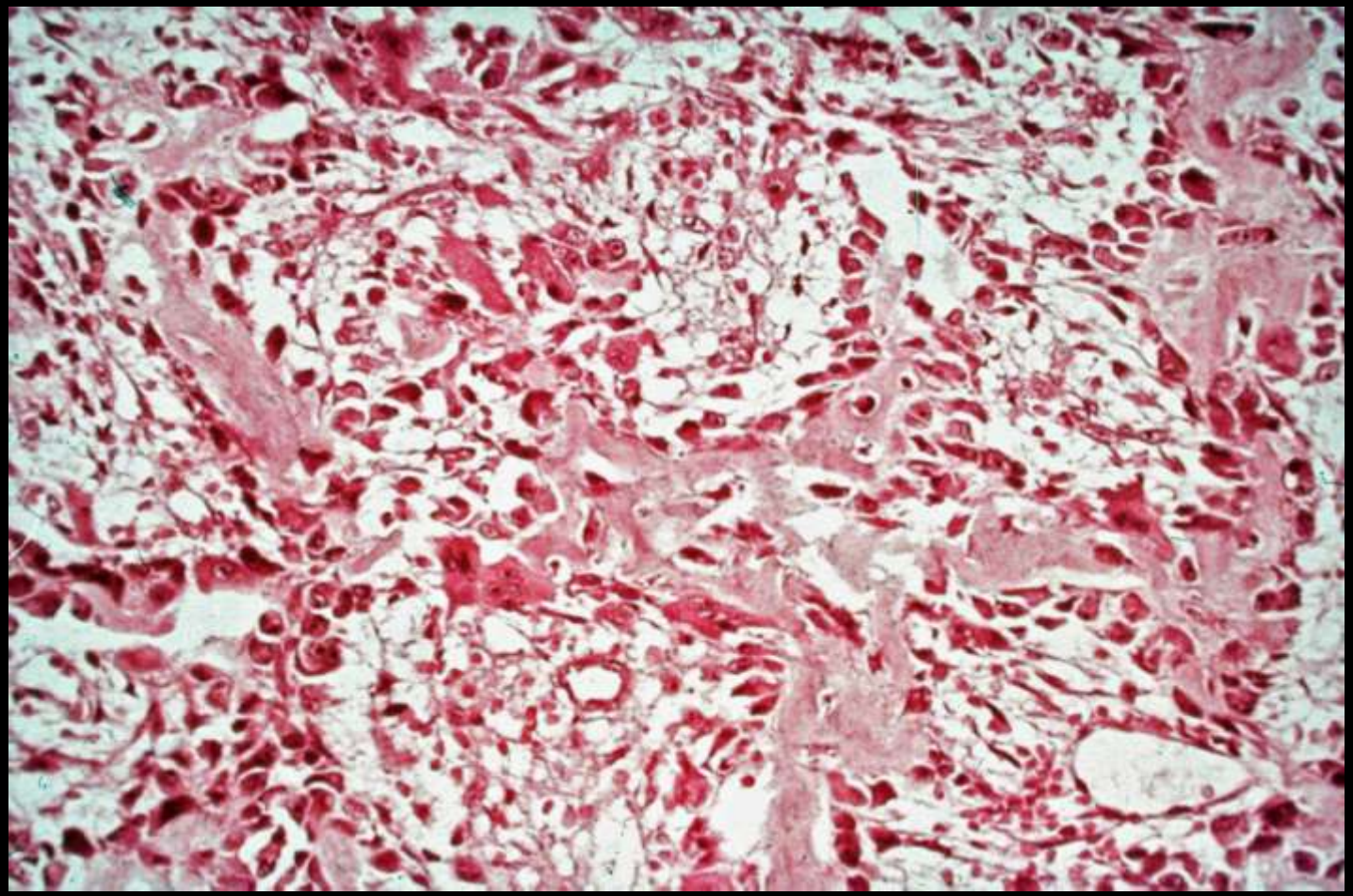
A category of osteoid and bone forming tumor other than classical osteoid osteoma, which may be mistaken for giant cell tumor or osteogenic sarcoma.

Lichtenstein L
Cancer 9: 1044-1052

1956

"… a rather vascular, osteoid and bone-forming benign tumor characterized, cytologically, by the abundant presence of osteoblasts".

WHO



An osteoblastic-osteoid tissue forming tumor of a metacarpal bone

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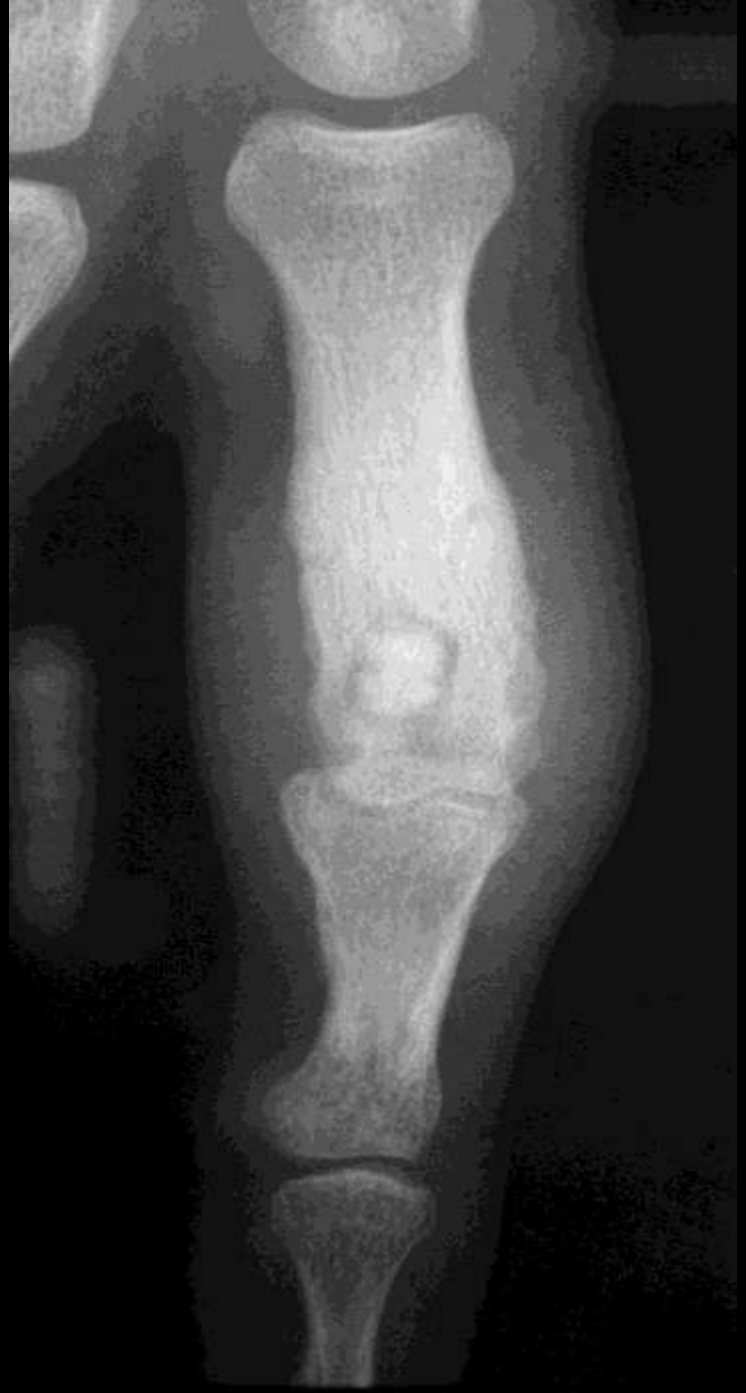
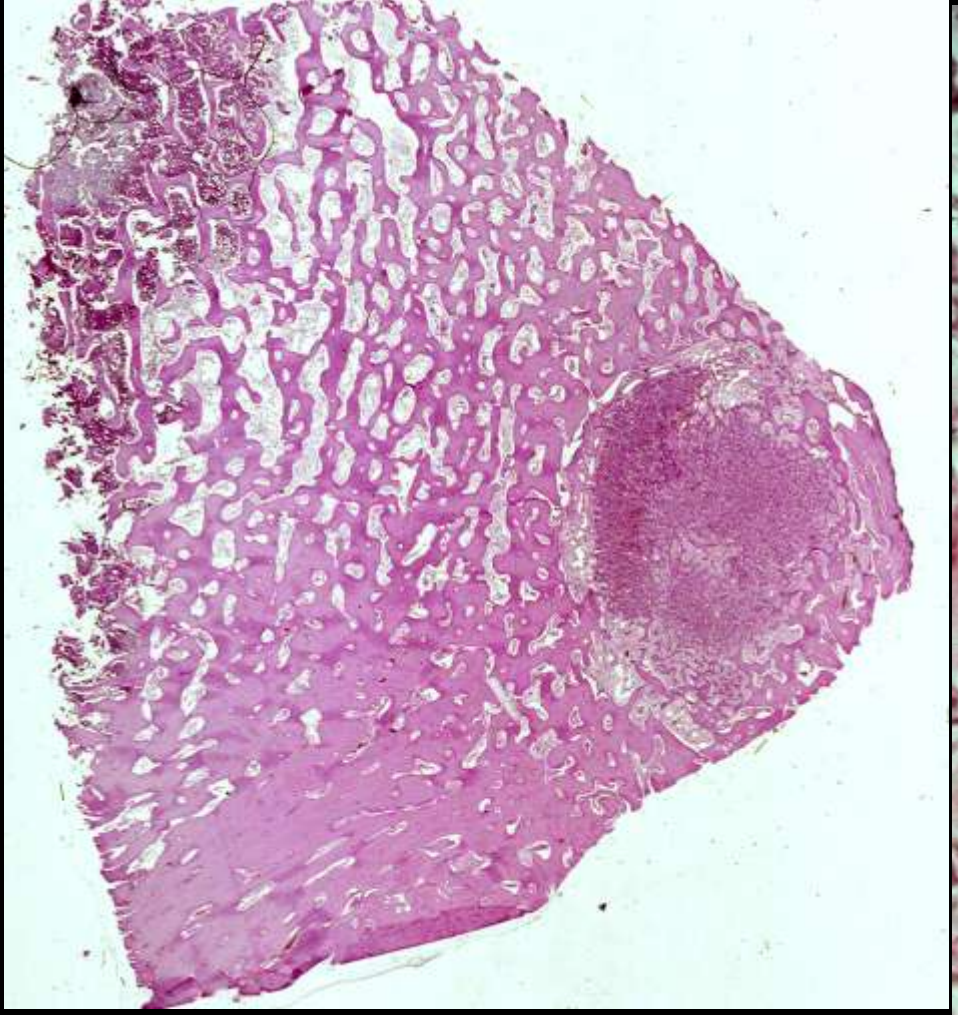
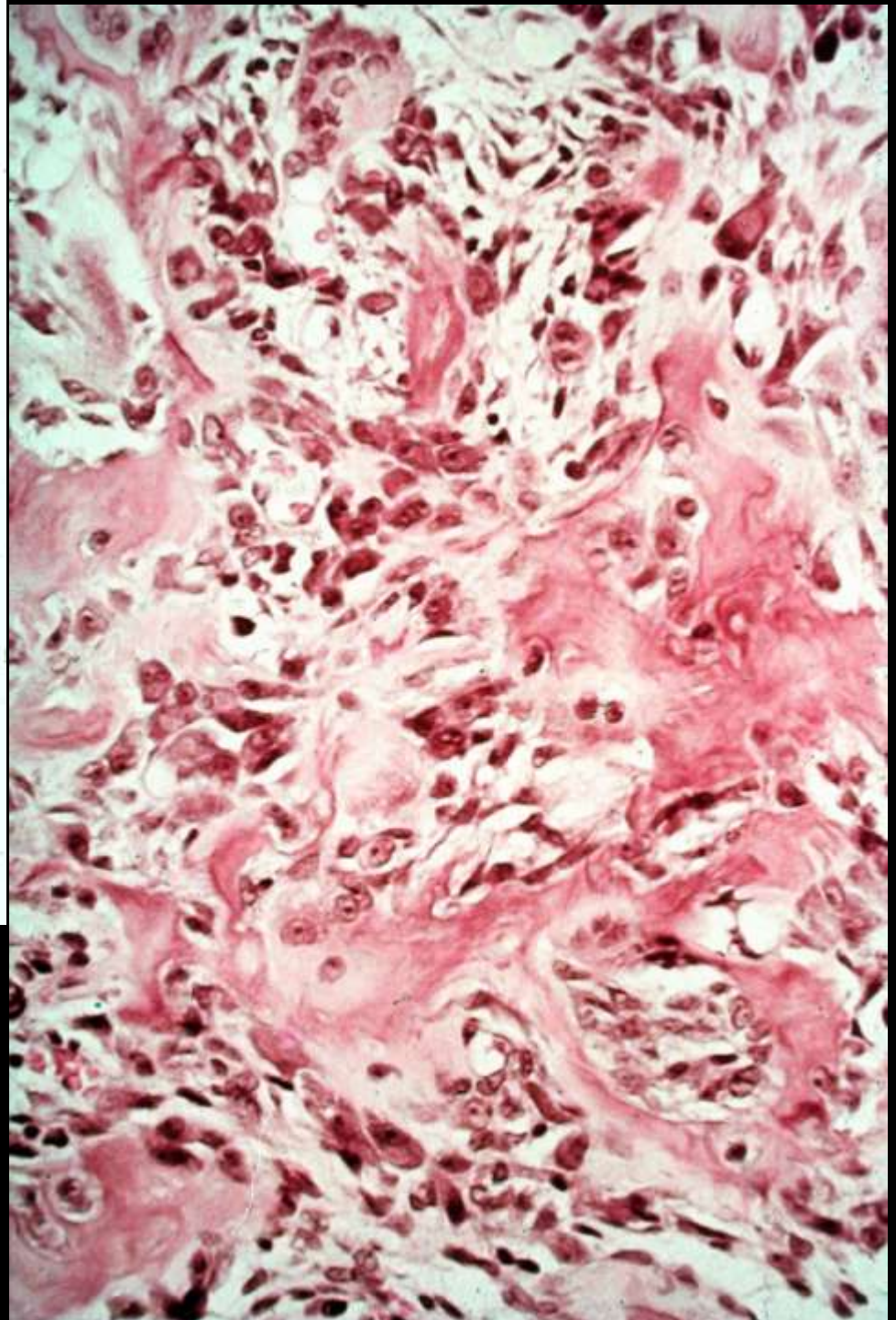
Jaffe HL, Mayer L
Arch Surg 24: 550-564

1935







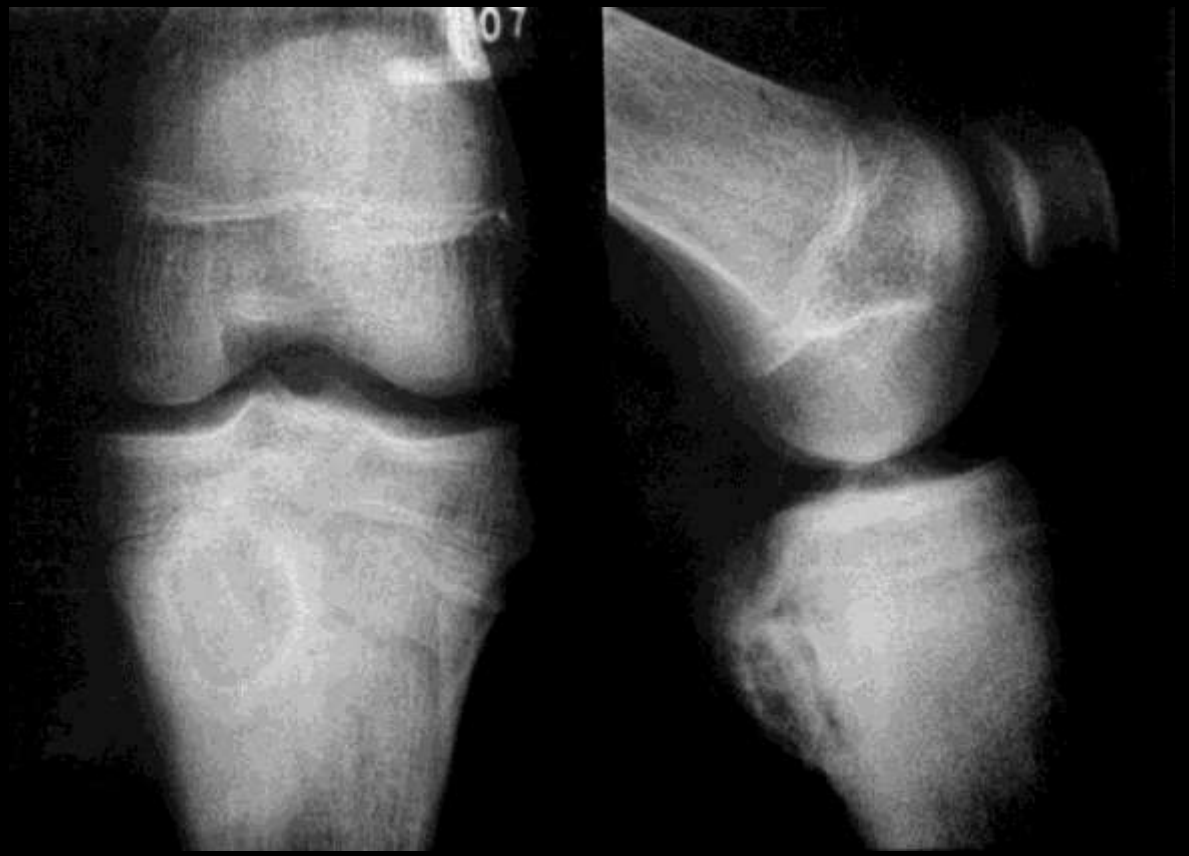
Giant Osteoid Osteoma

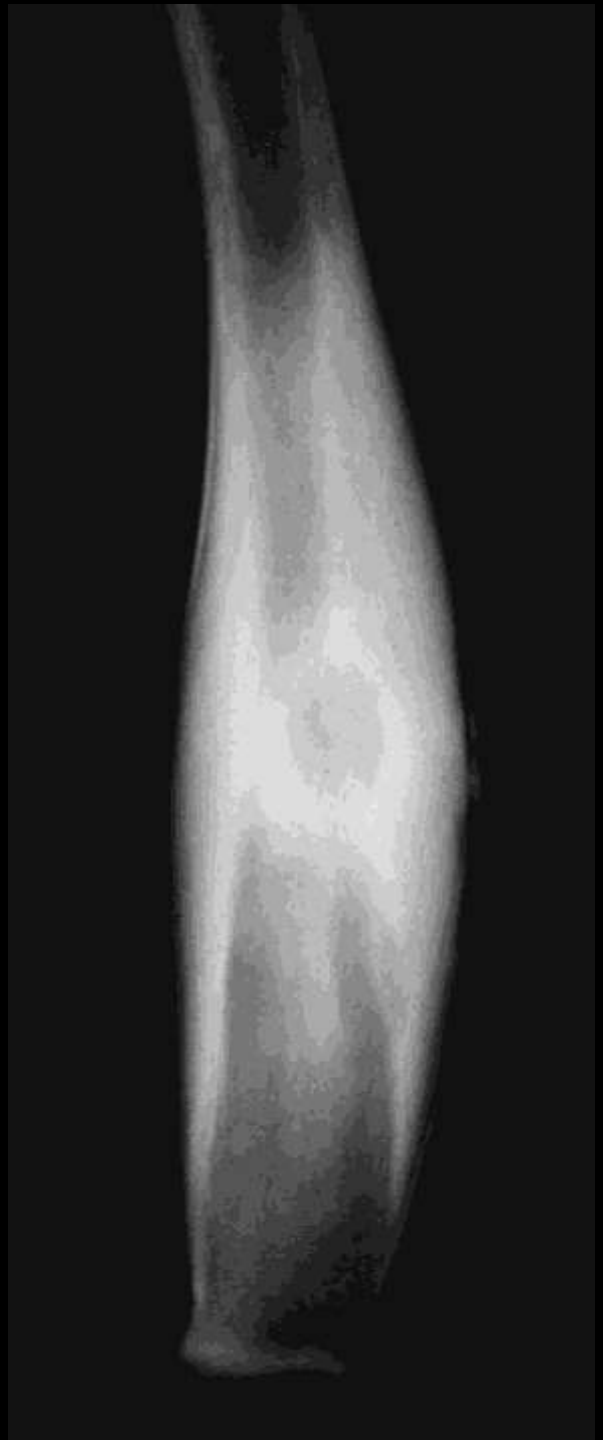
Dahlin DC, Johnson EW Jr.

J Bone Joint Surg

36A: 559-572

1954





Osteoid Osteoma and Osteoblastoma: closely related entities of osteoblastic derivation

Schajowicz F, Lemos C
Acta Orthop Scand
41: 272-291

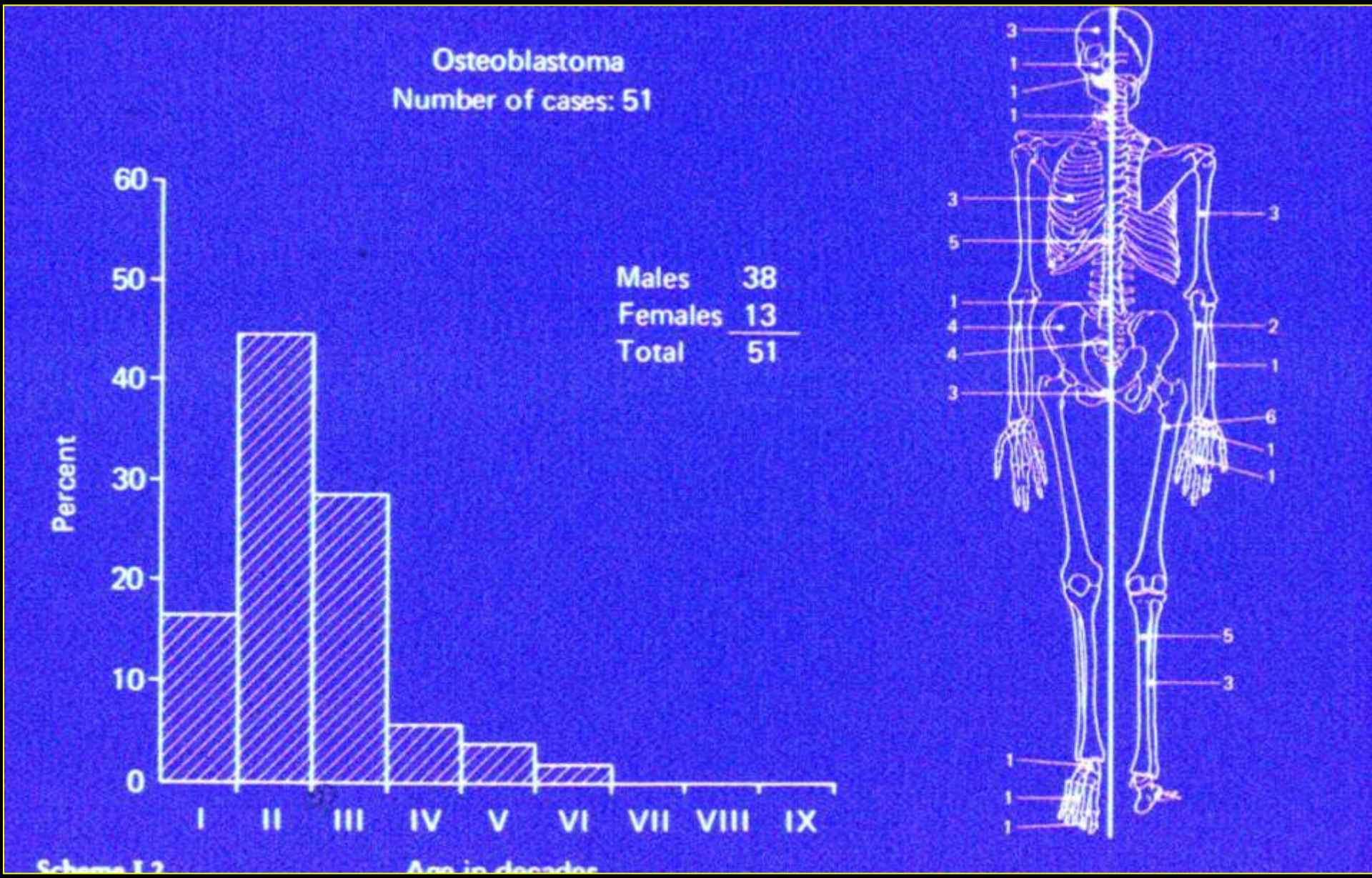
1970

“Circumscribed Osteoblastoma”
“Genuine Osteoblastoma”

OSTEOBLASTOMA	OSTEOID OSTEOMA
> 2 cm	< 2 cm
≠	Limited growth potencial
	Characteristic pain
	Perifocal reactive sclerotic bone

Registro Latinoamericano de Patología Osea

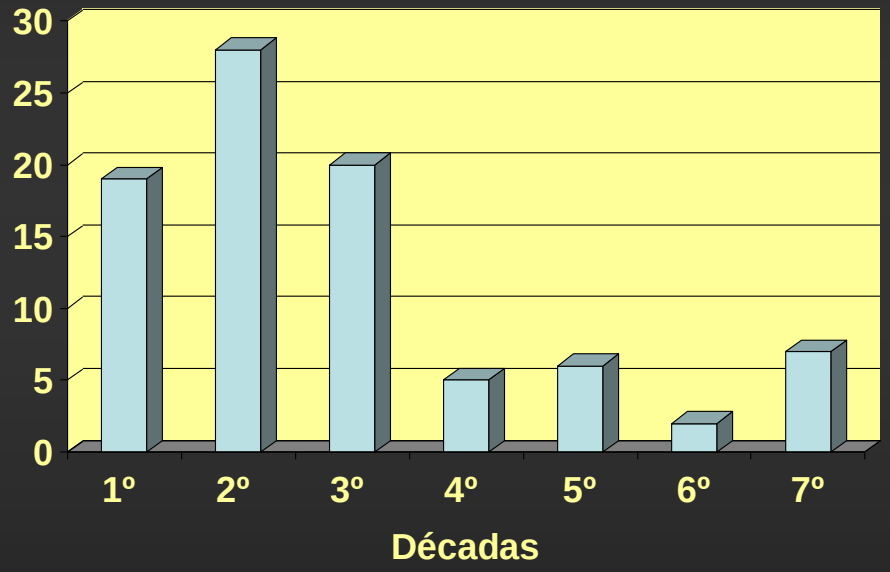
1940-1978



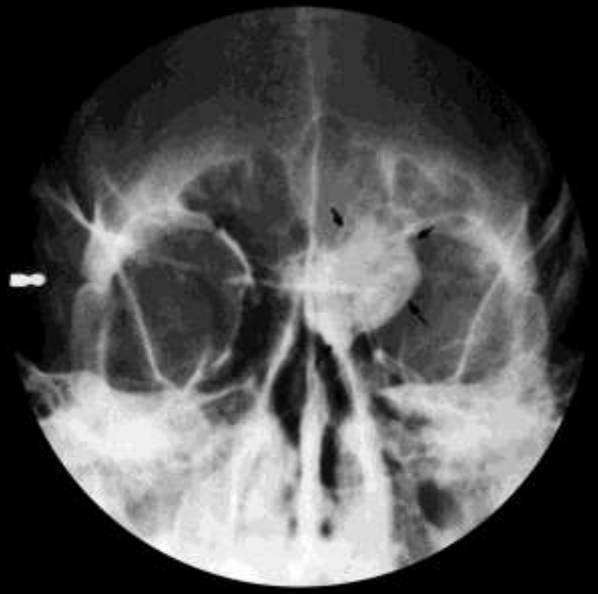
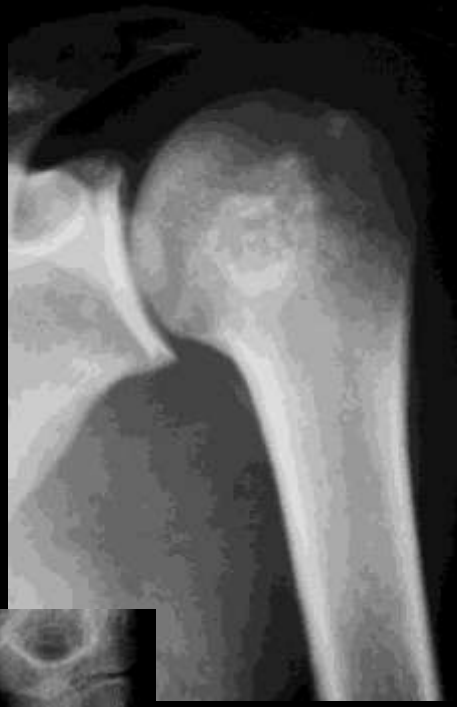
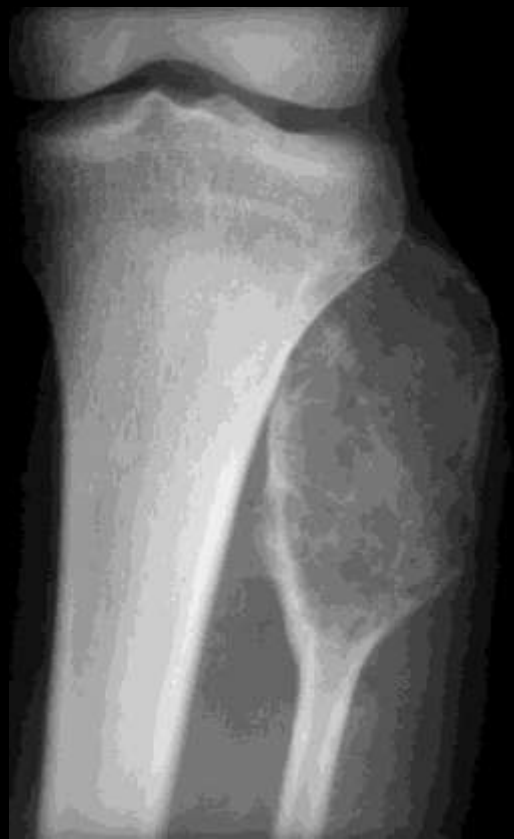
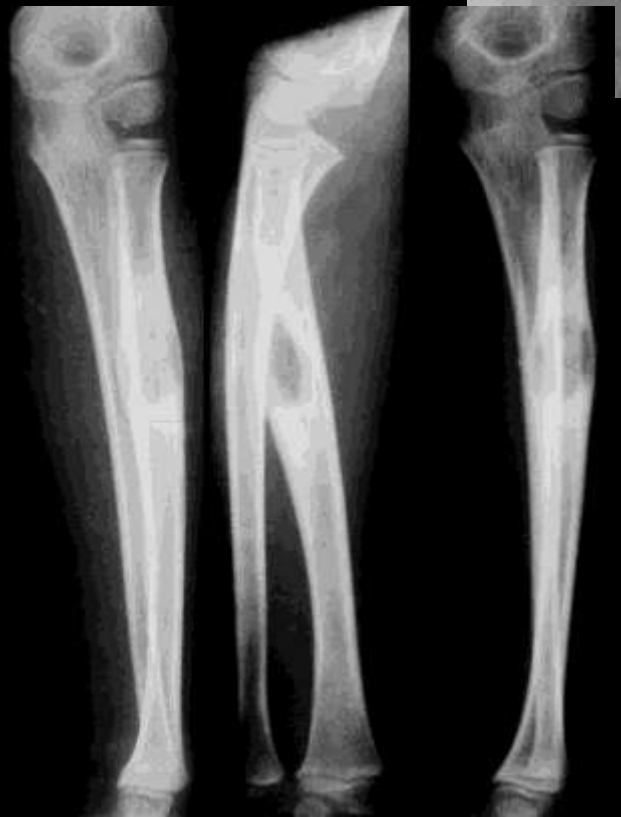
OSTEOBLASTOMA

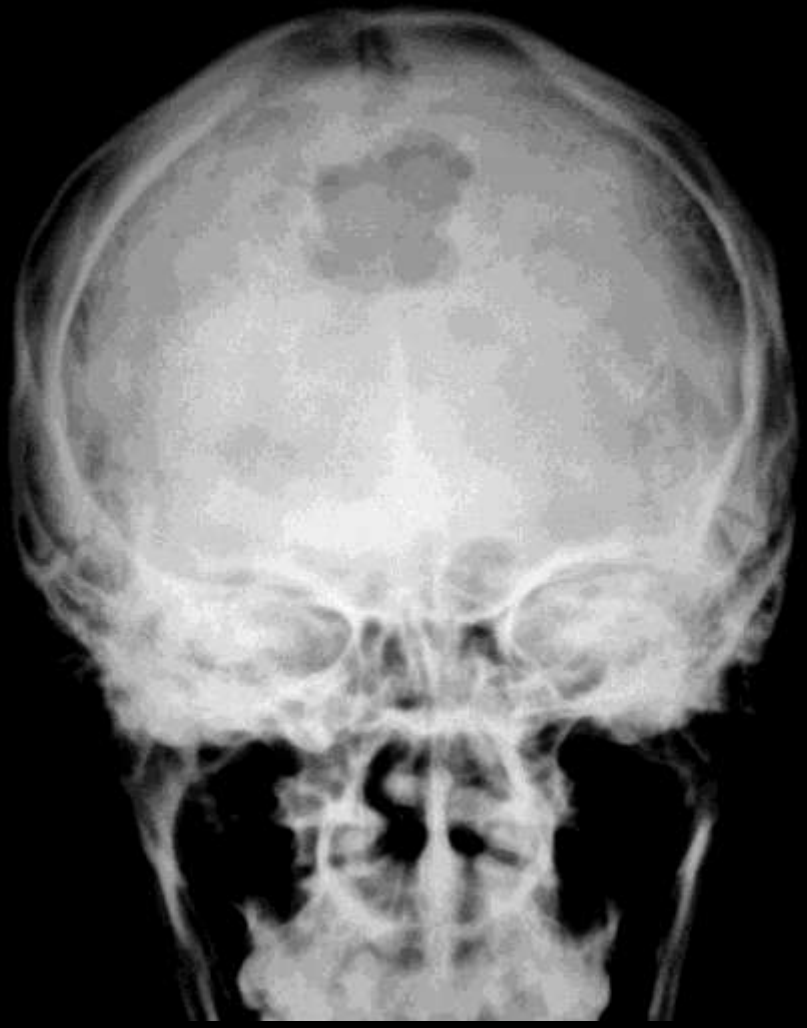
Laboratorio de Patología Ortopédica (1986 -2010)

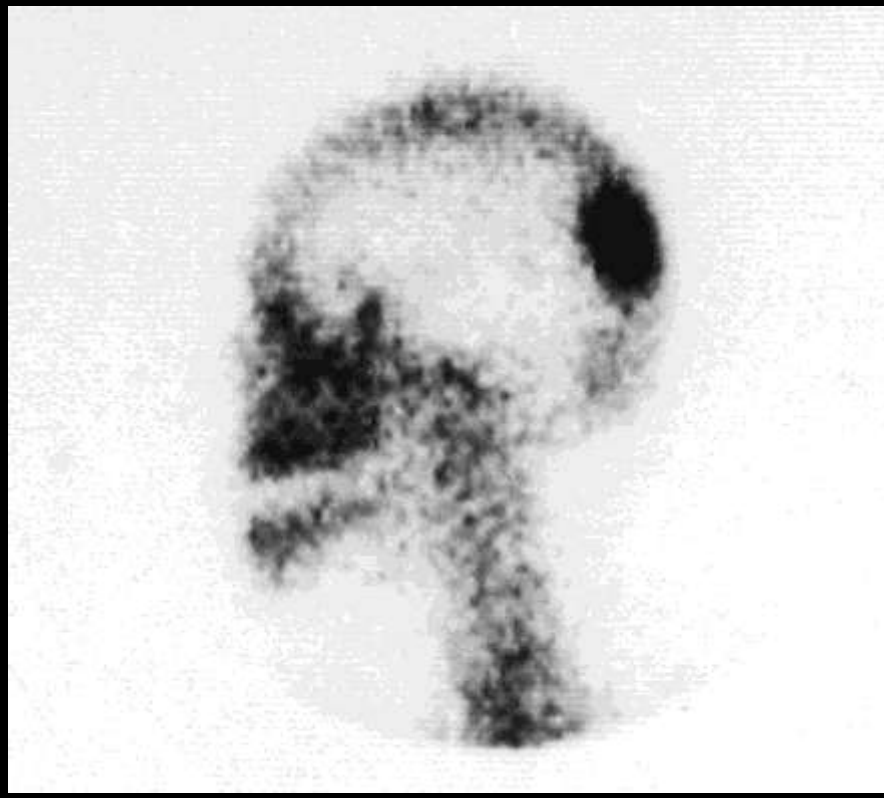
87 casos

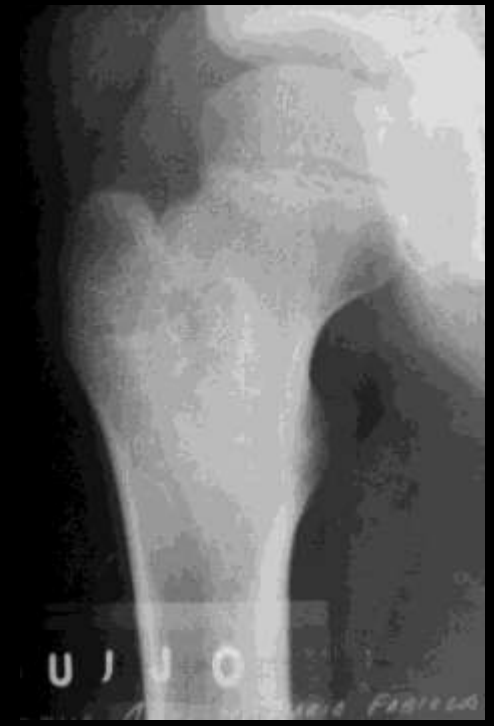


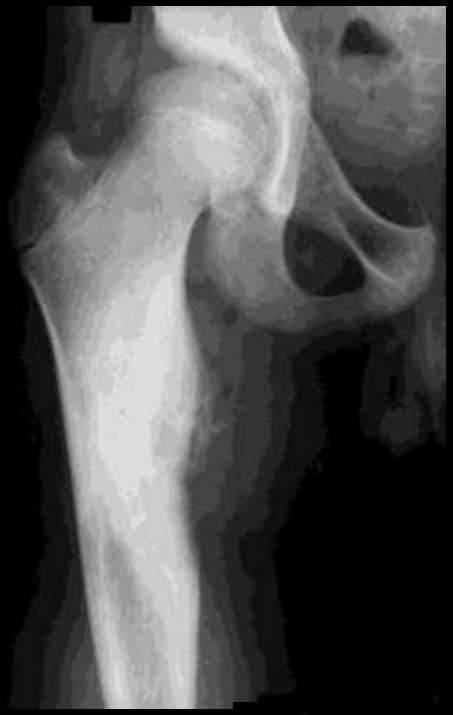
Hombres	52
Mujeres	35
Vertebra	23
Femur	15
Tibia	13
Craneo	12
Otros	24

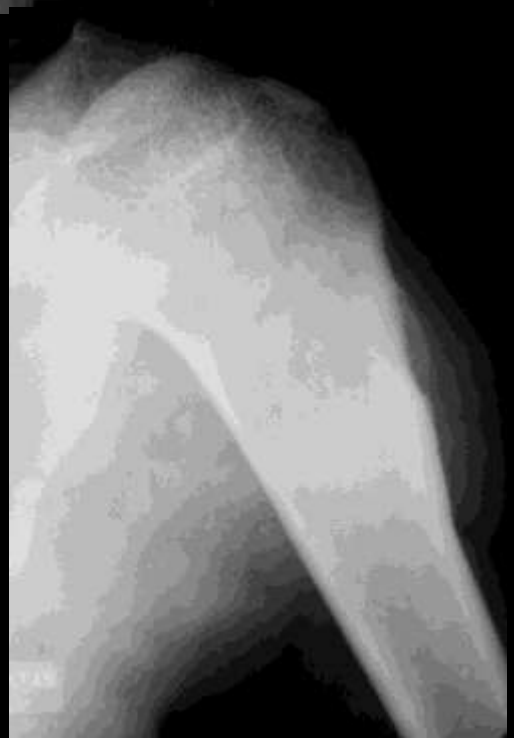





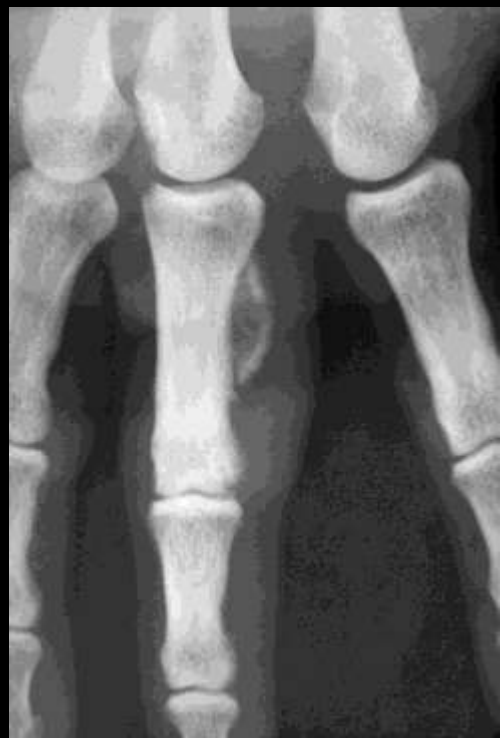


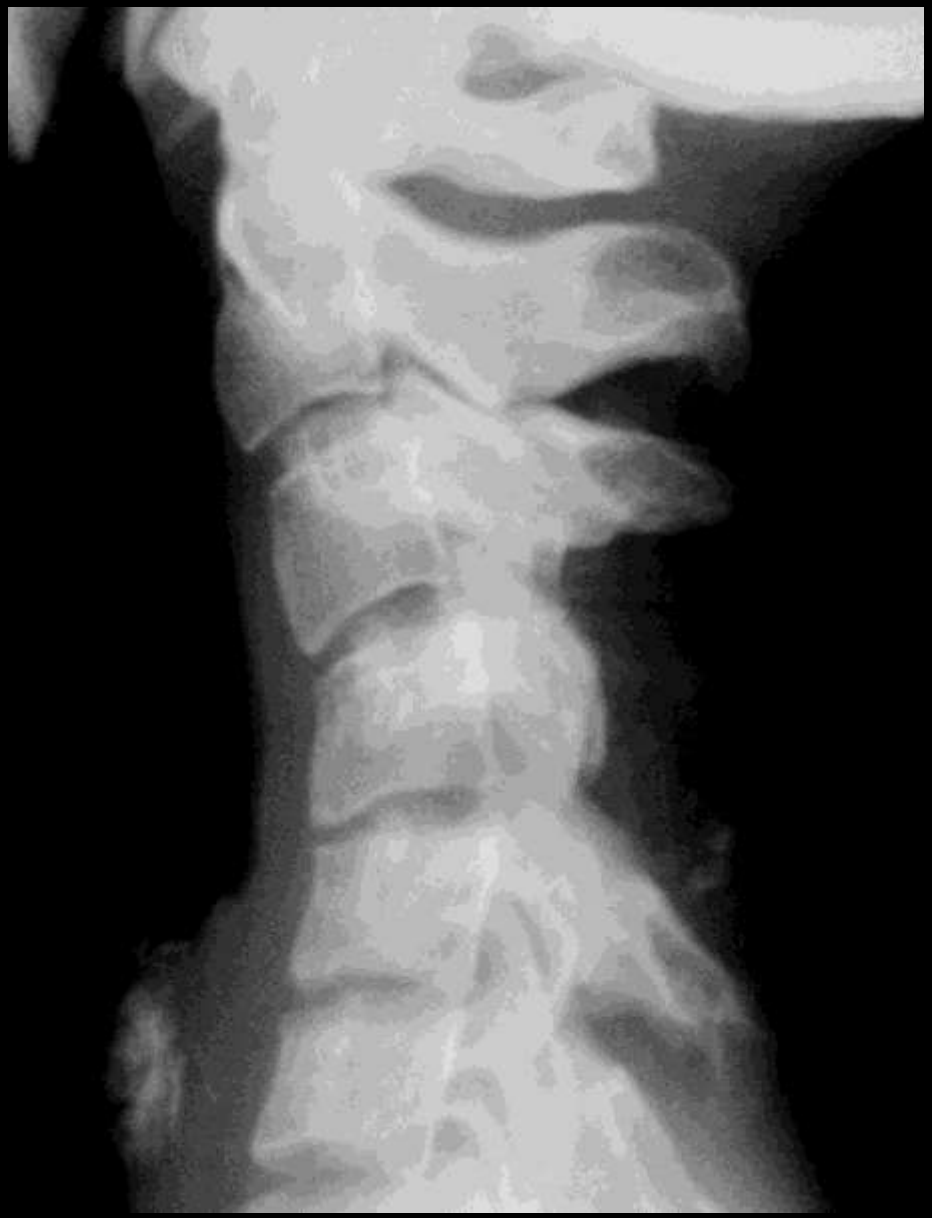


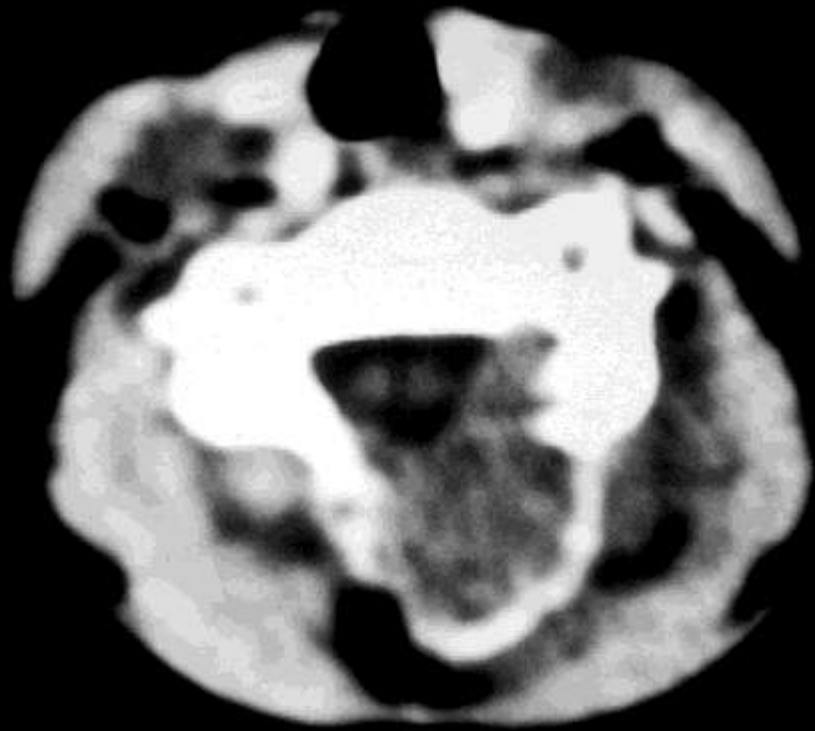


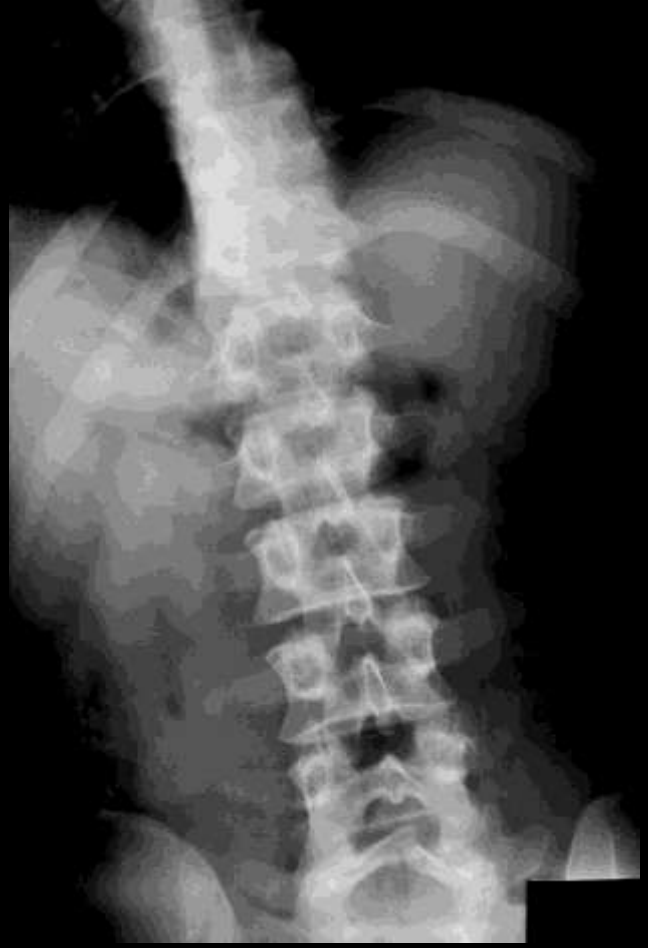


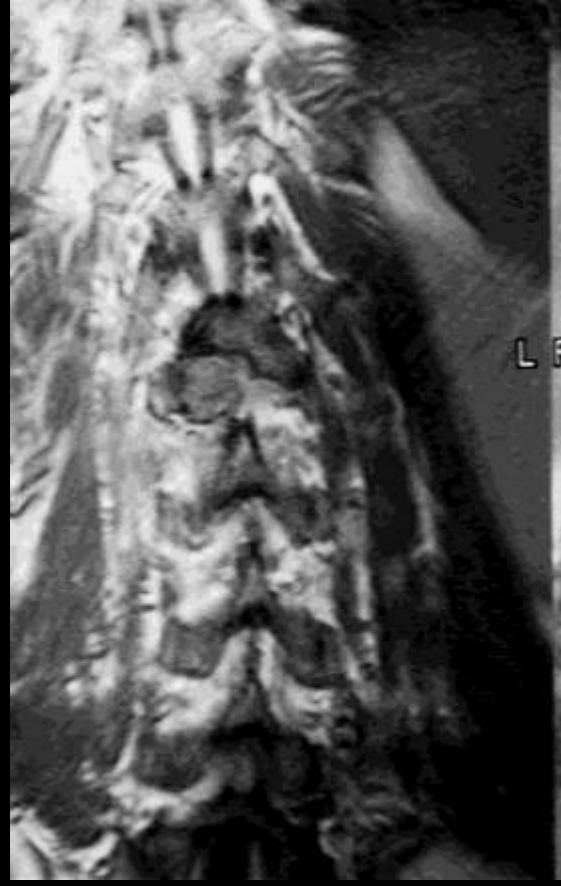








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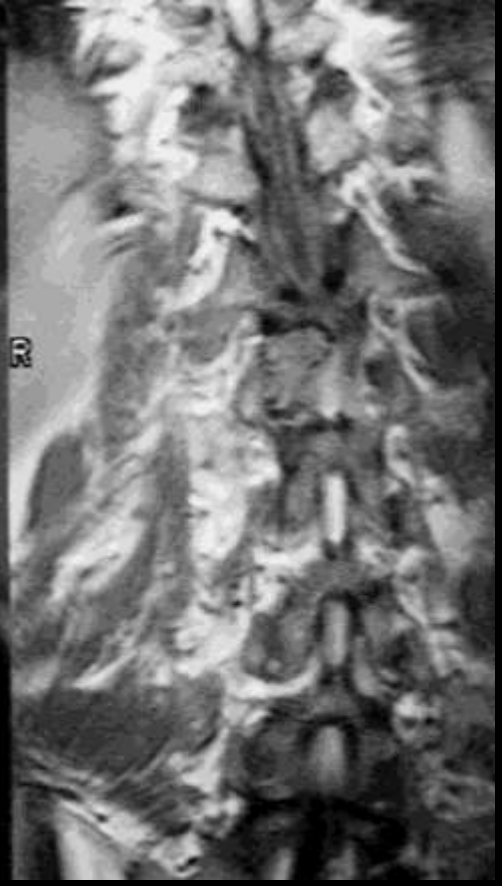
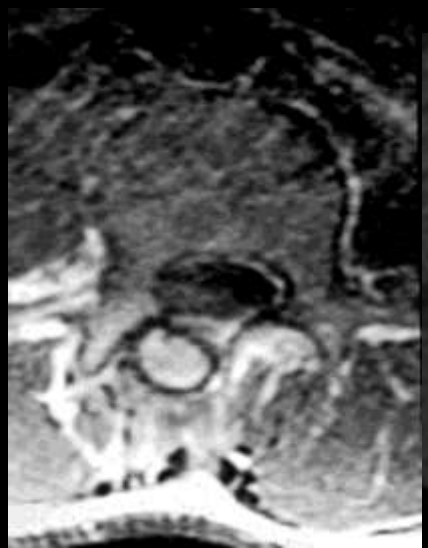
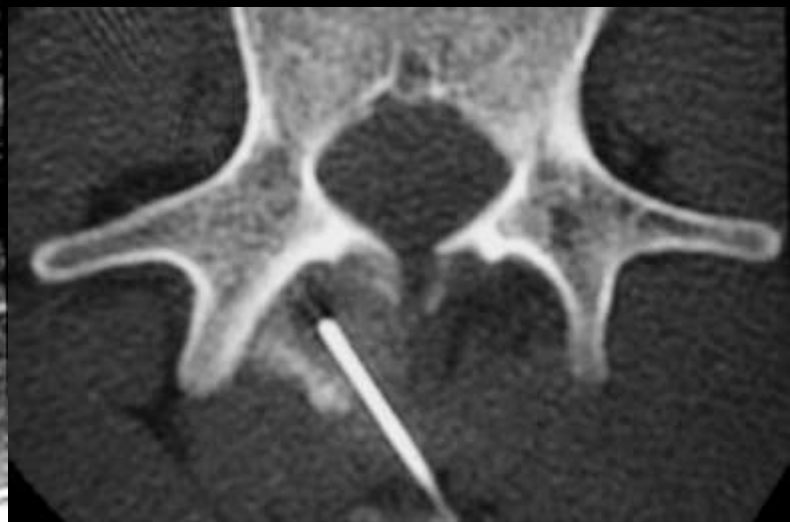
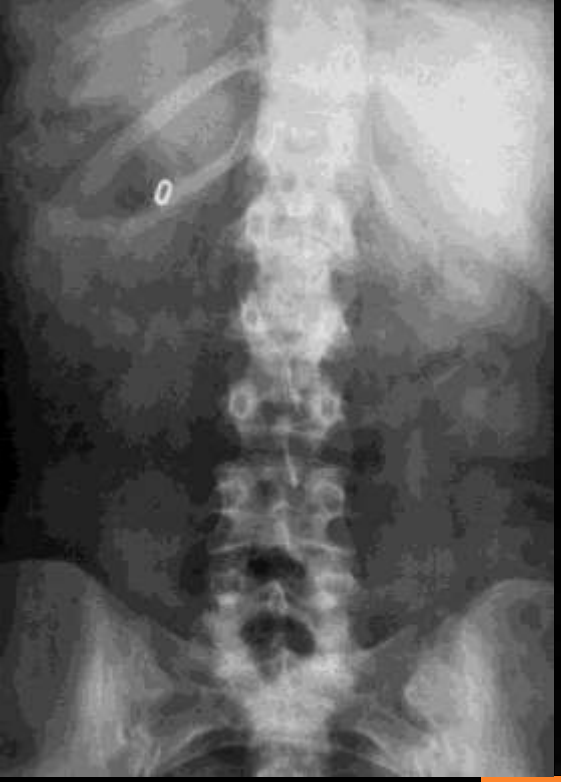
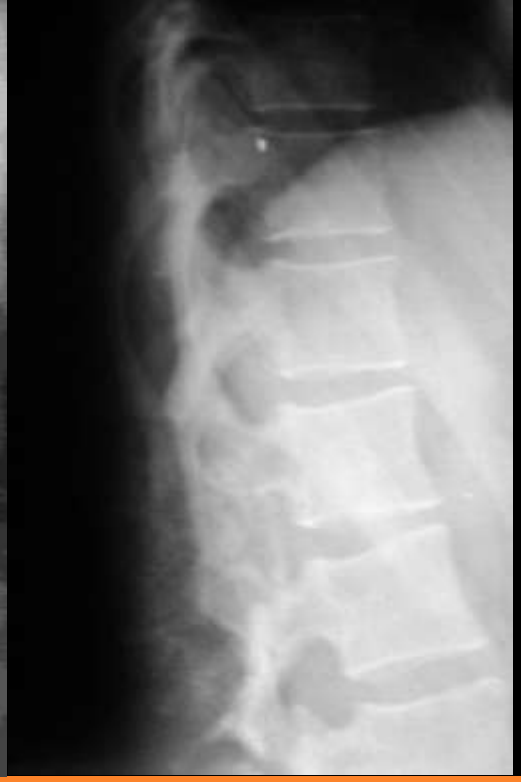
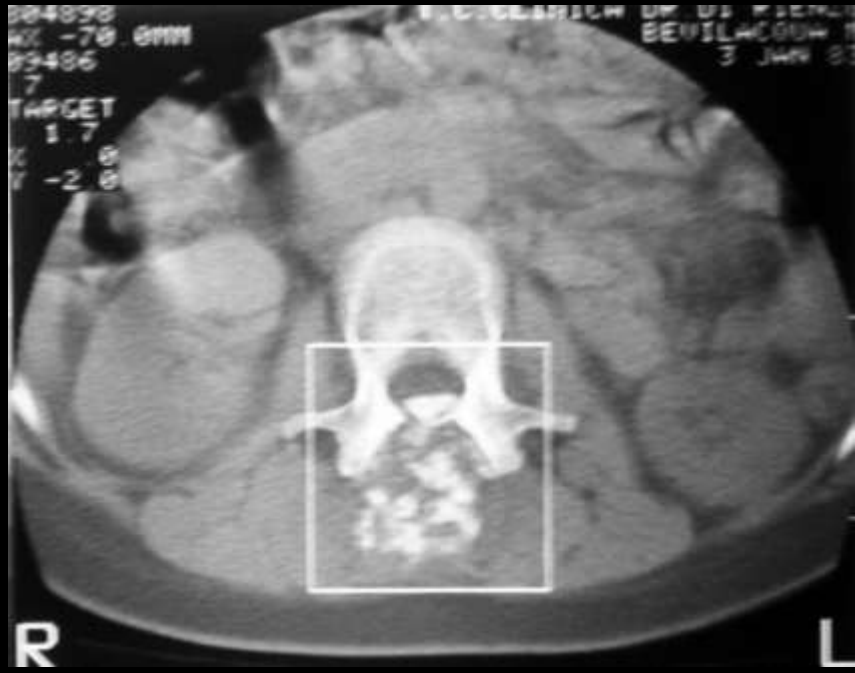


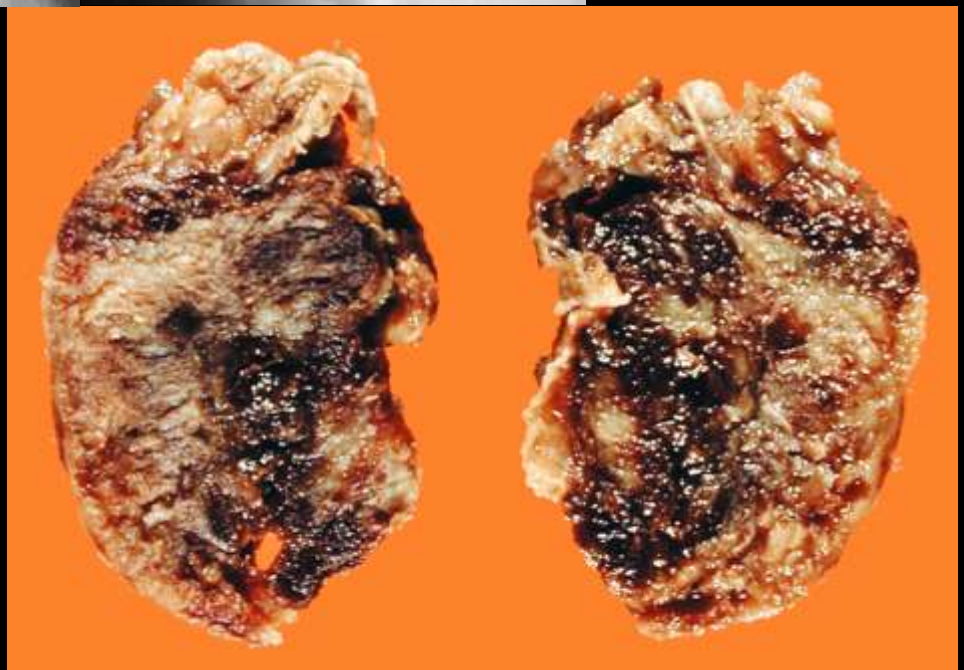


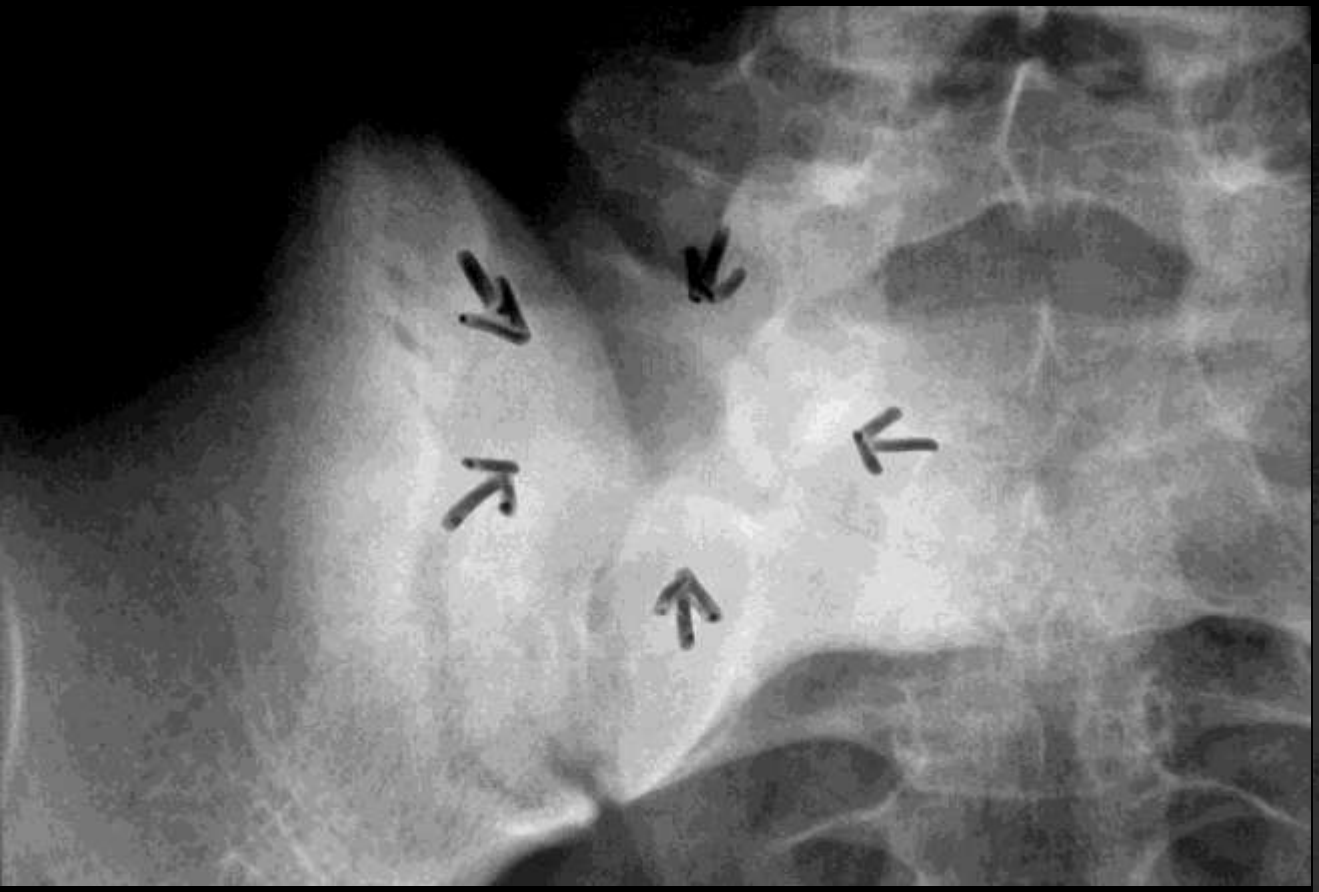


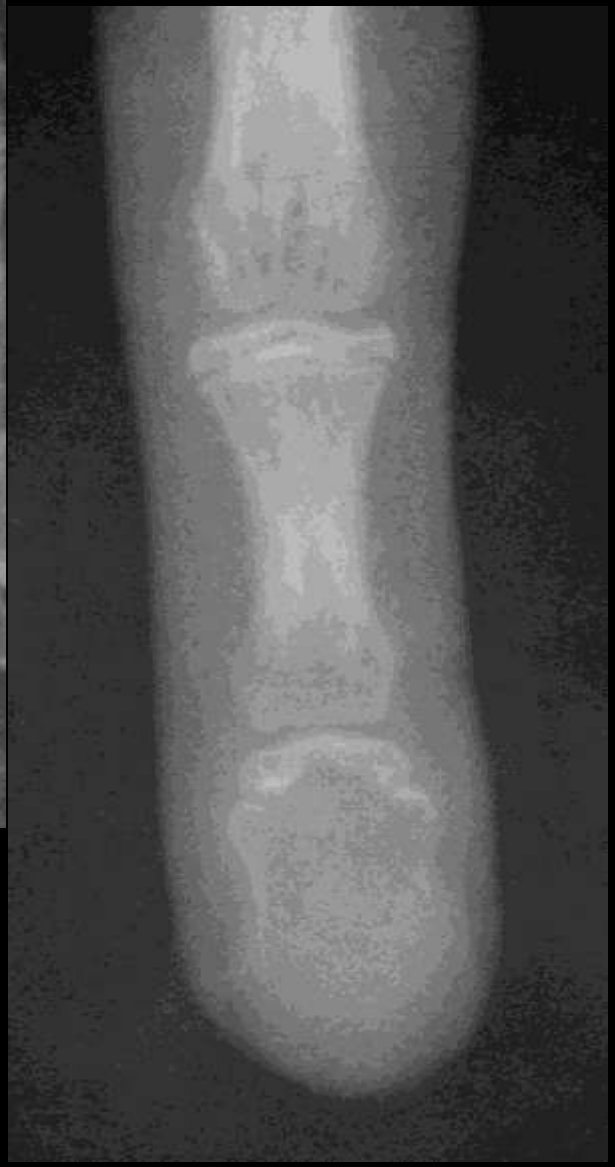


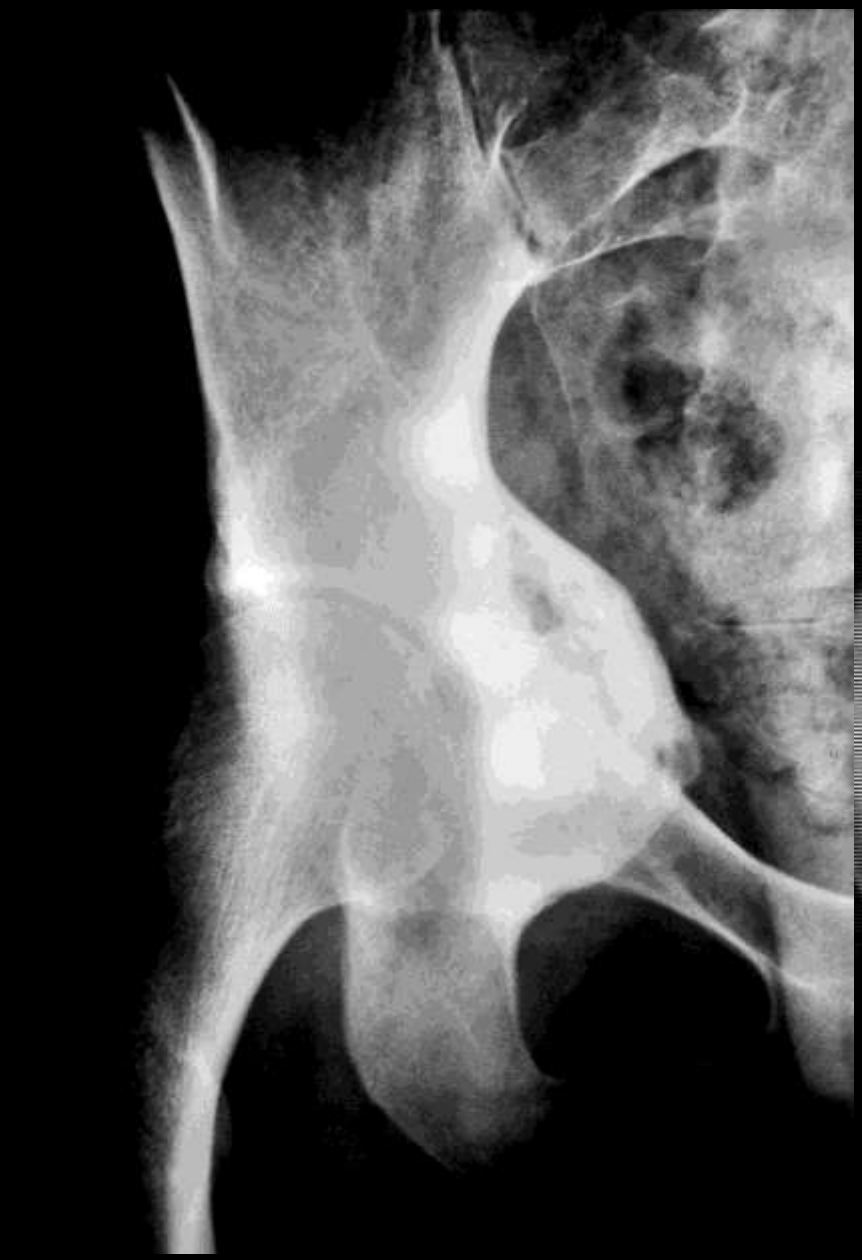


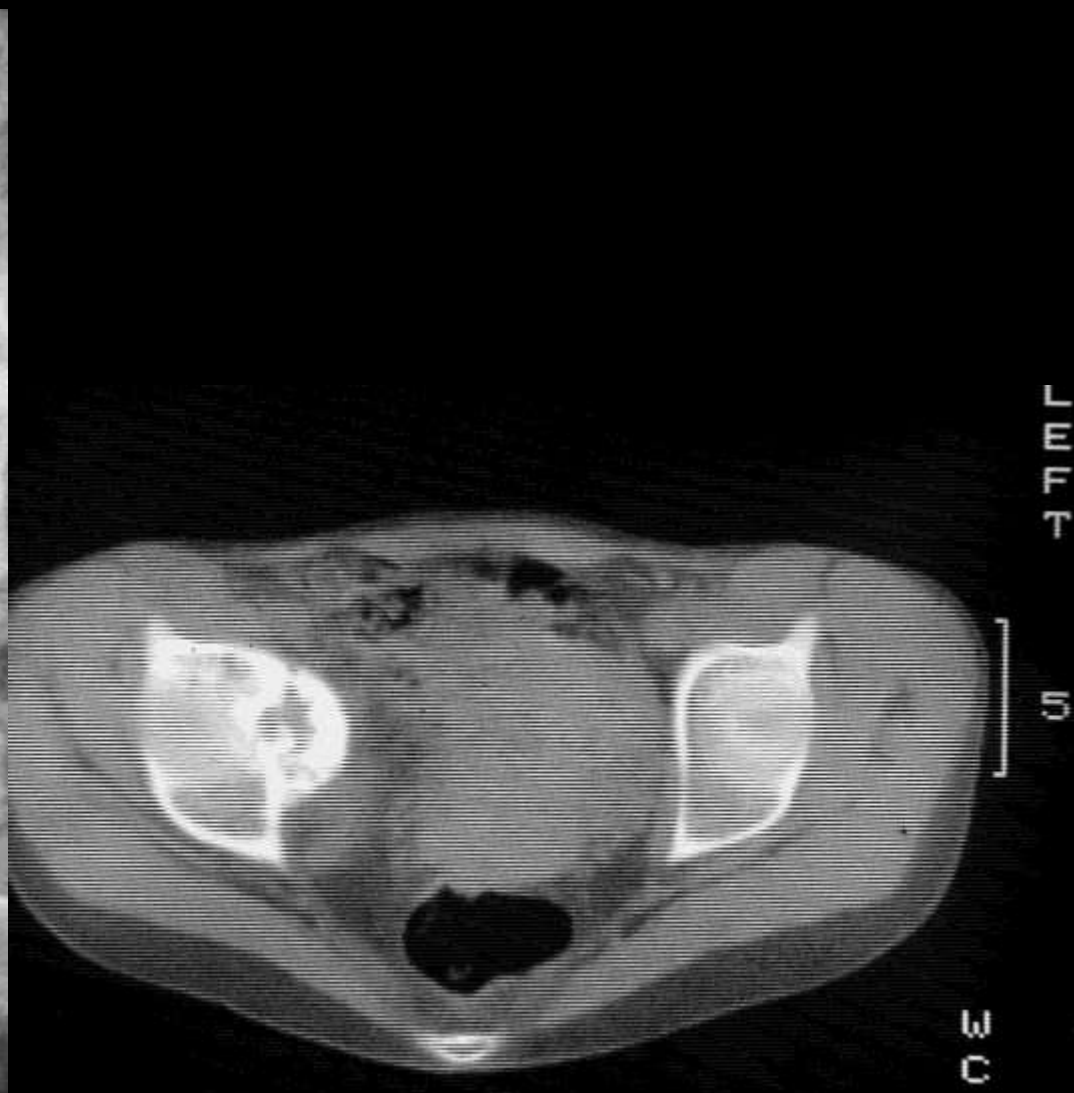

TARGET
R
L










LEFT
5
WC

Osteoid Osteoma and Osteoblastoma: closely related entities of osteoblastic derivation

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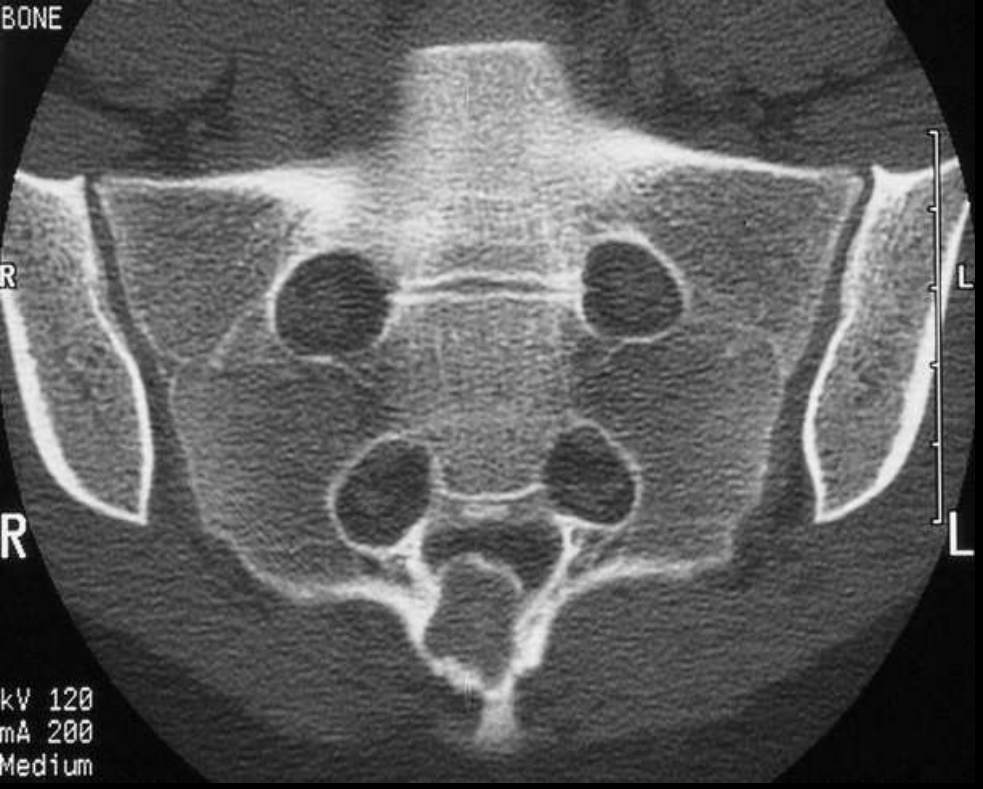
Schajowicz F, Lemos C Acta Orthop Scand 41: 272-291

1970

DAHLIN'S BONE TUMORS

Unni K. Krishnann
Lippincott - Raven 5th Ed.
Philadelphia – New York

1996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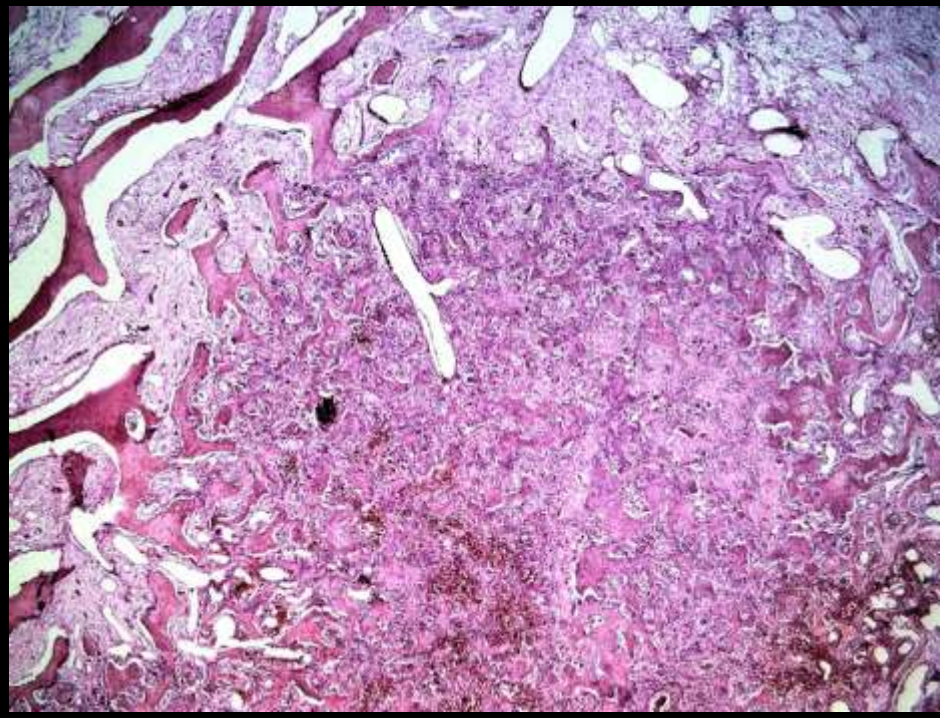
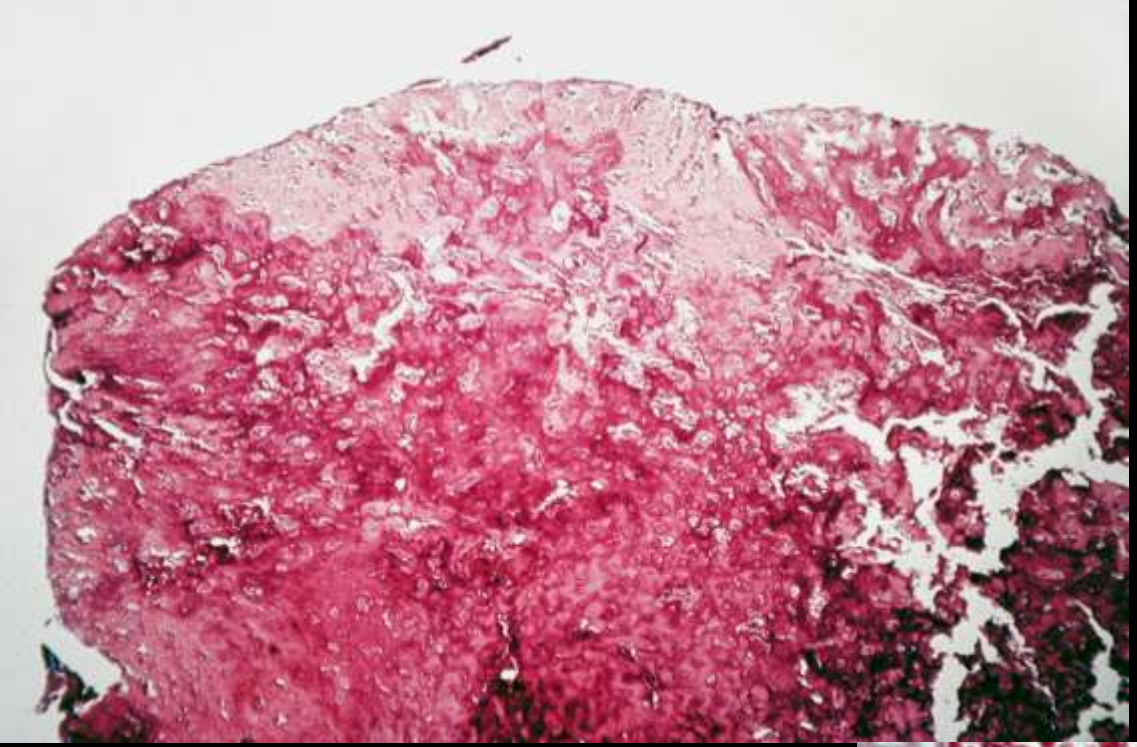
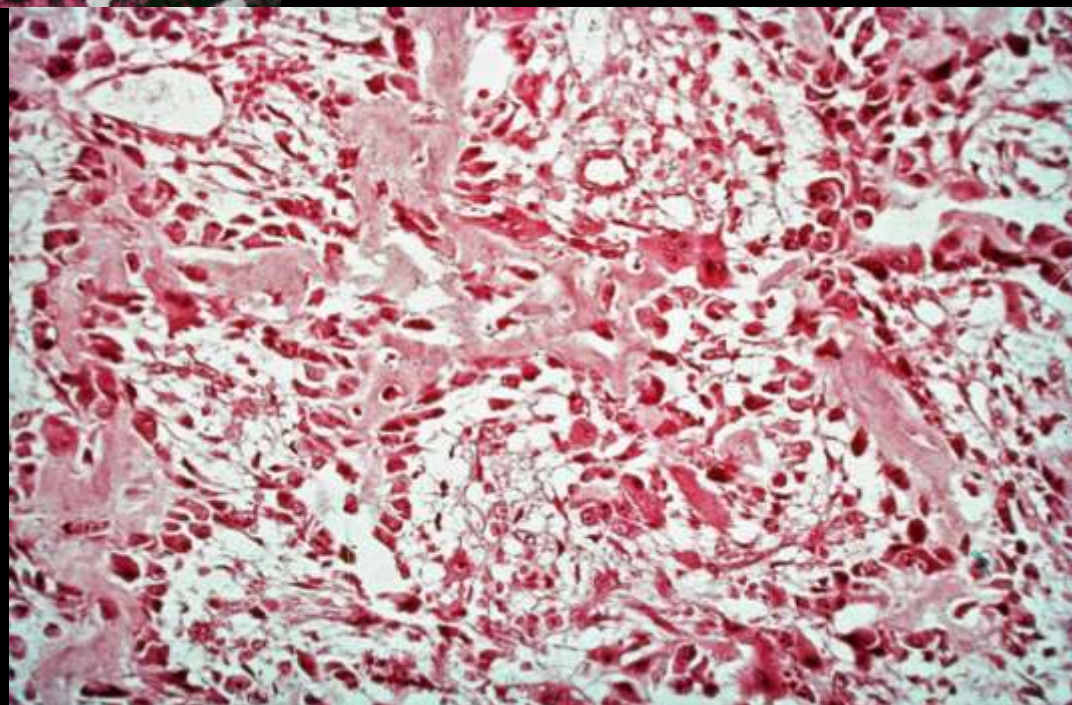
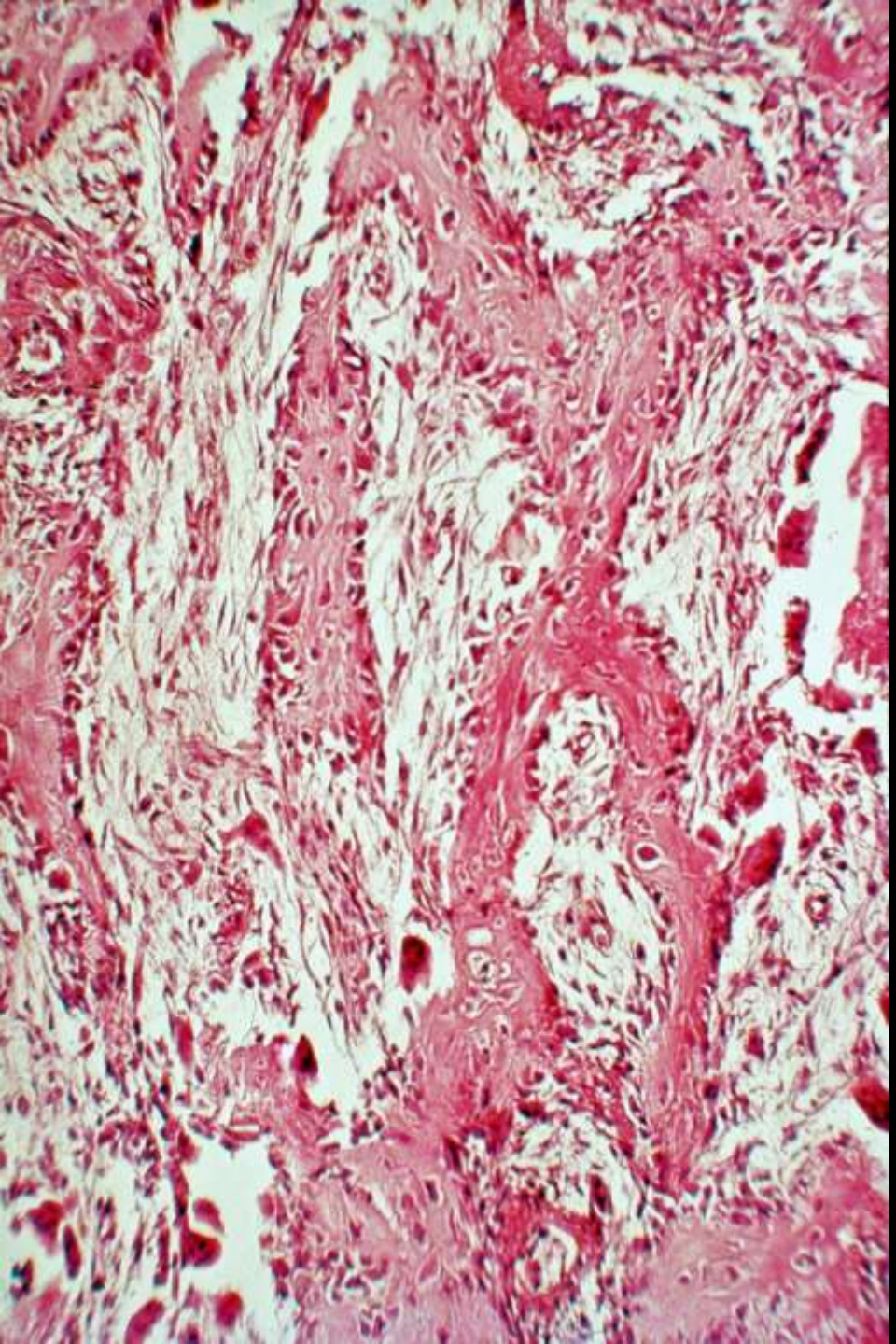
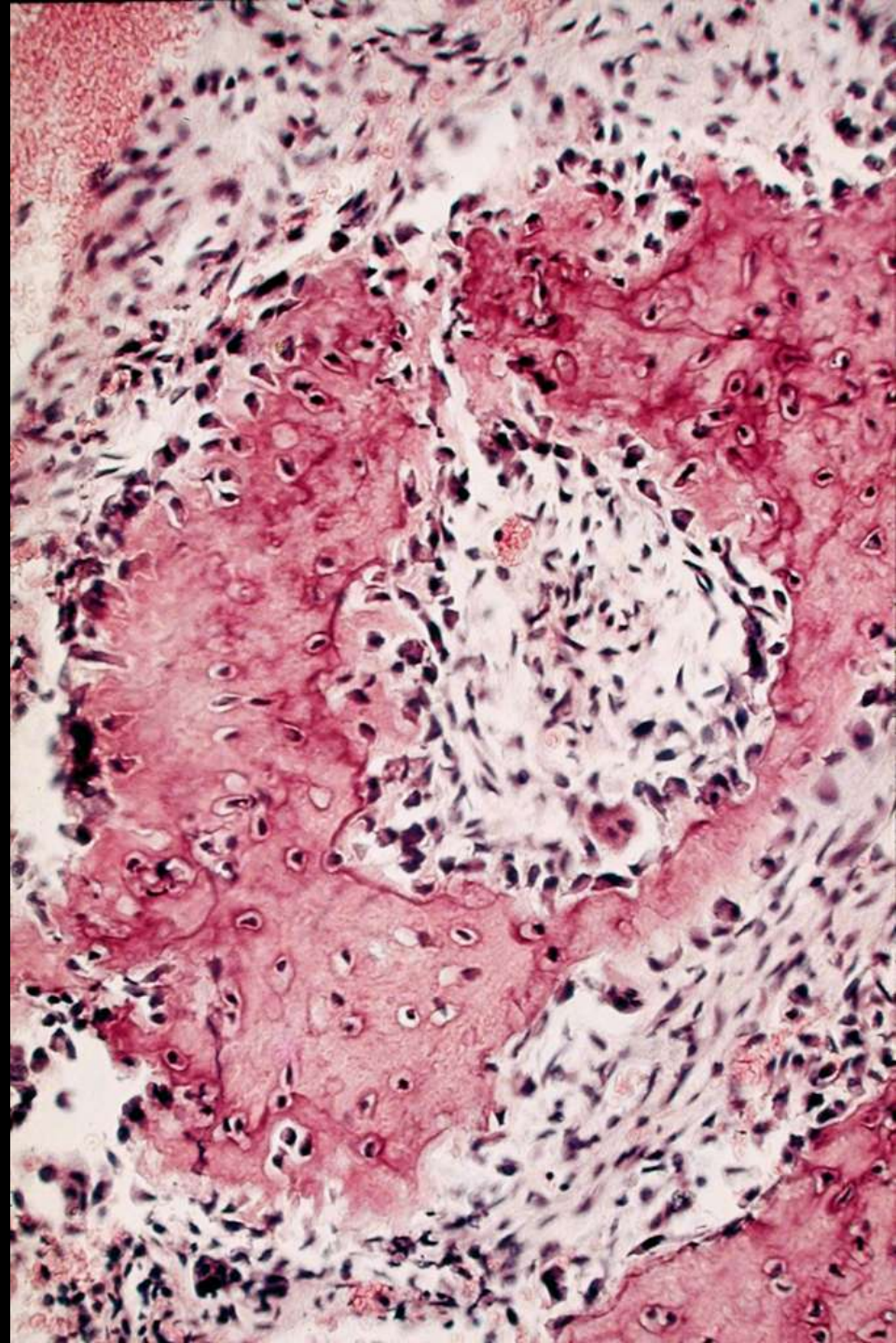
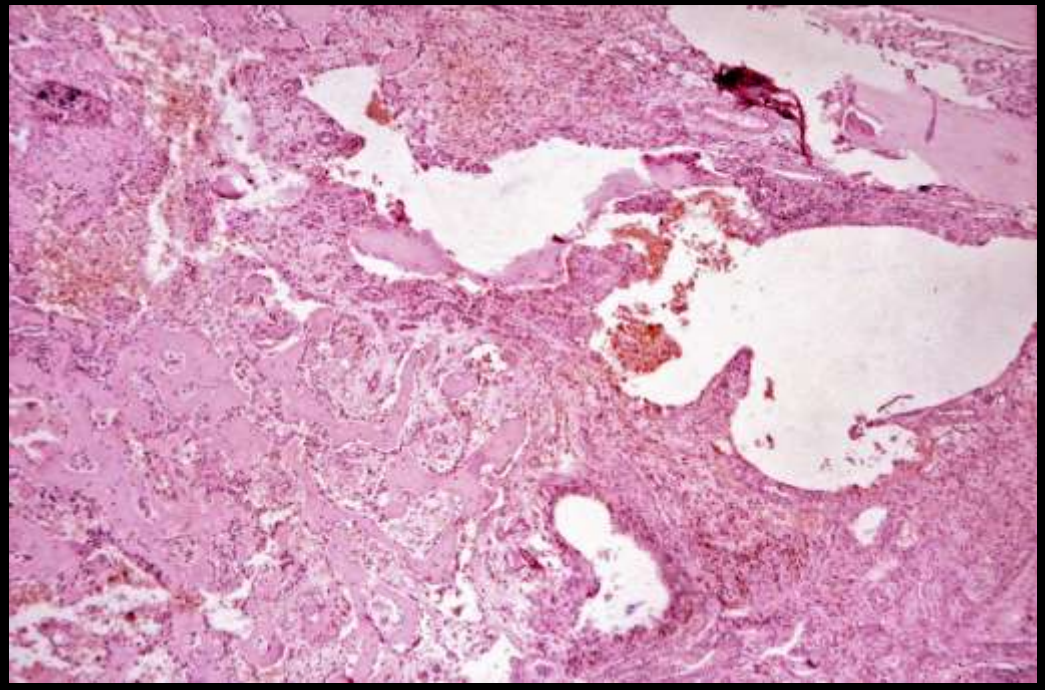
R
L
R
L
kV 120
mA 200
Medium

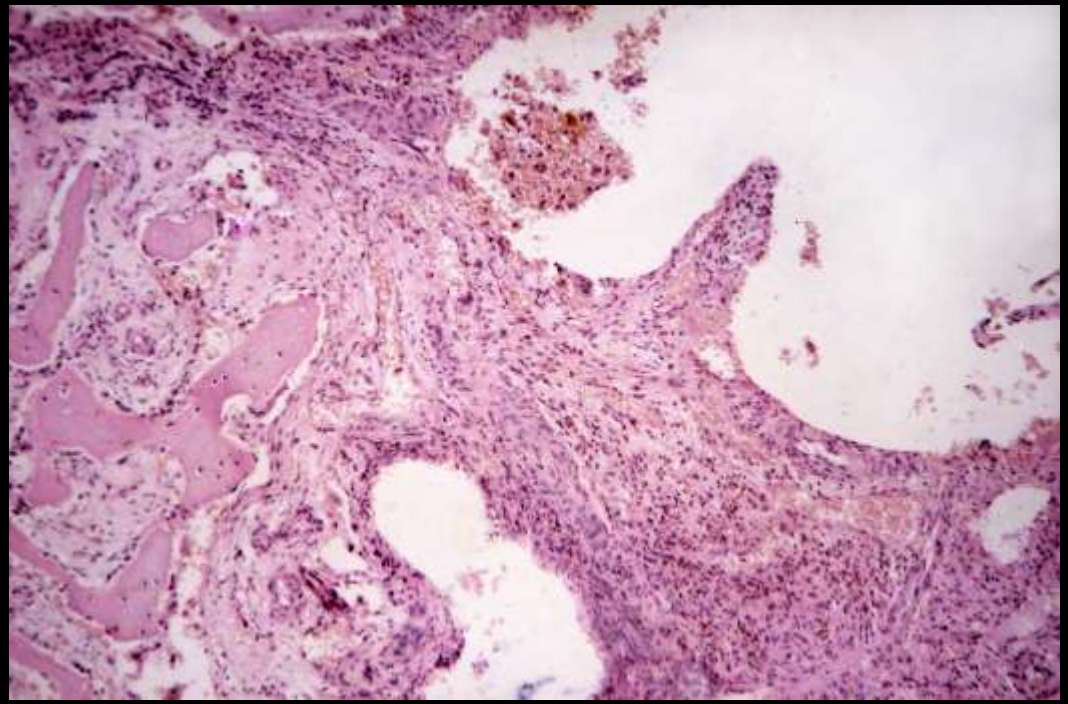


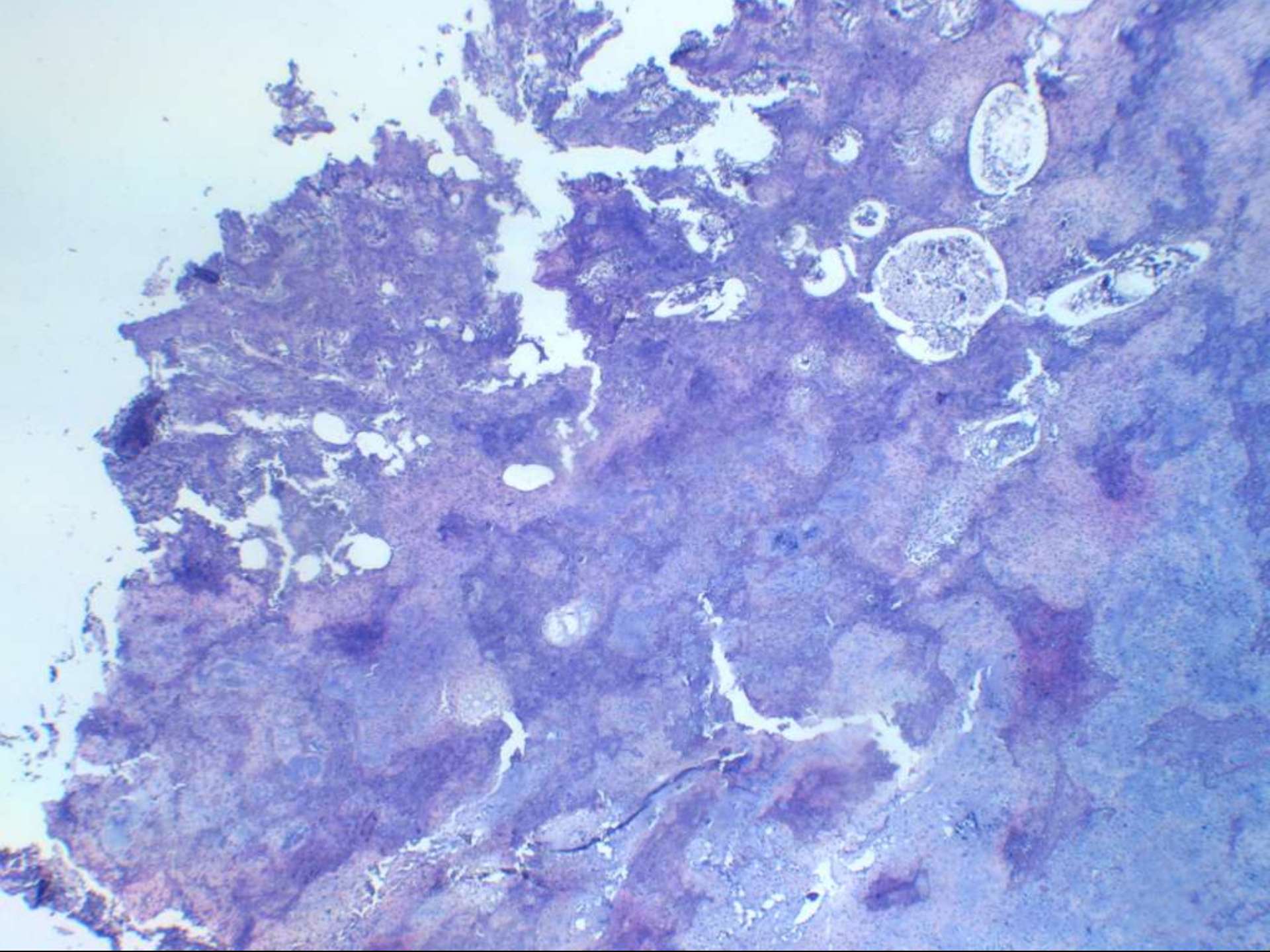


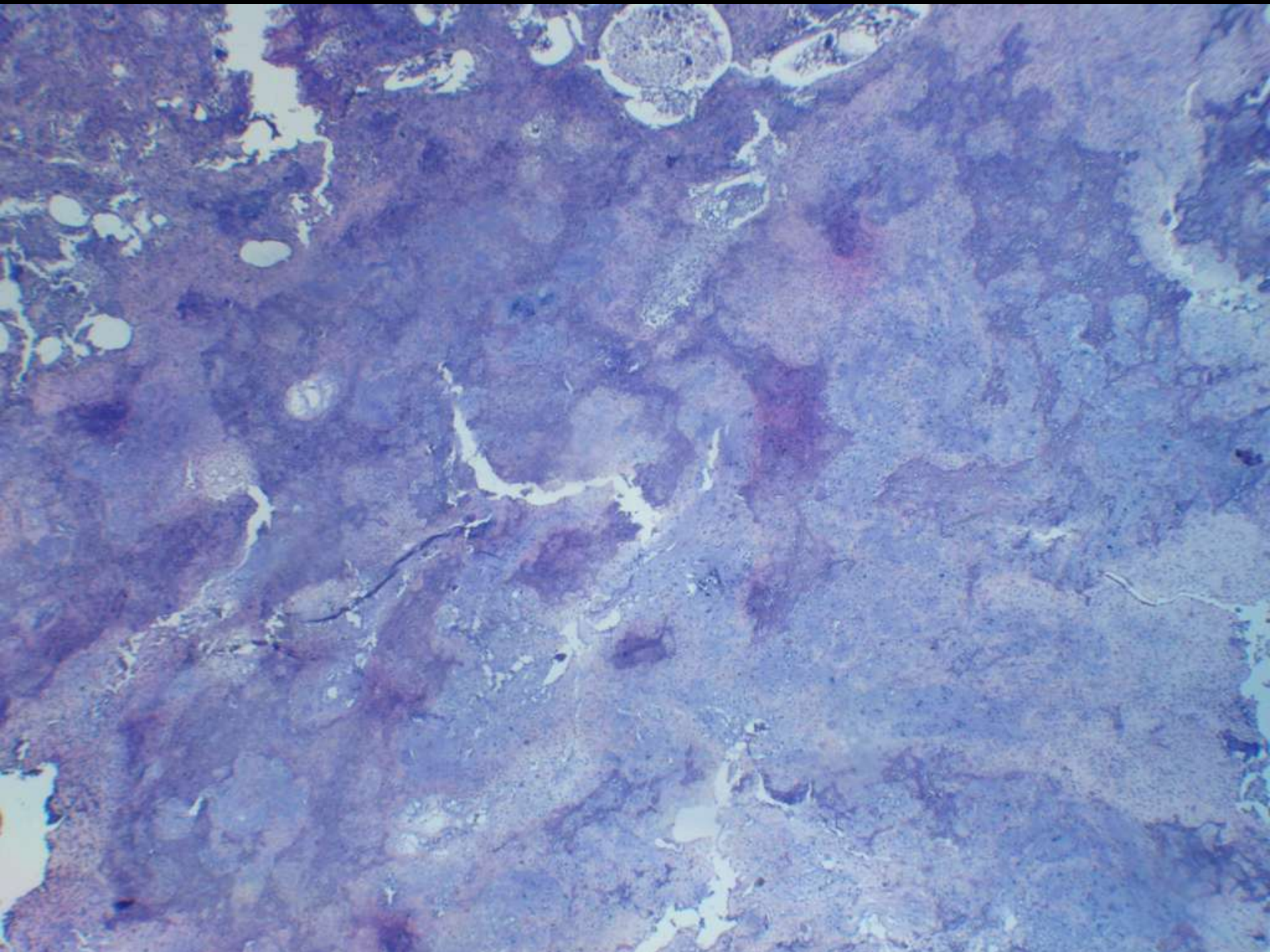


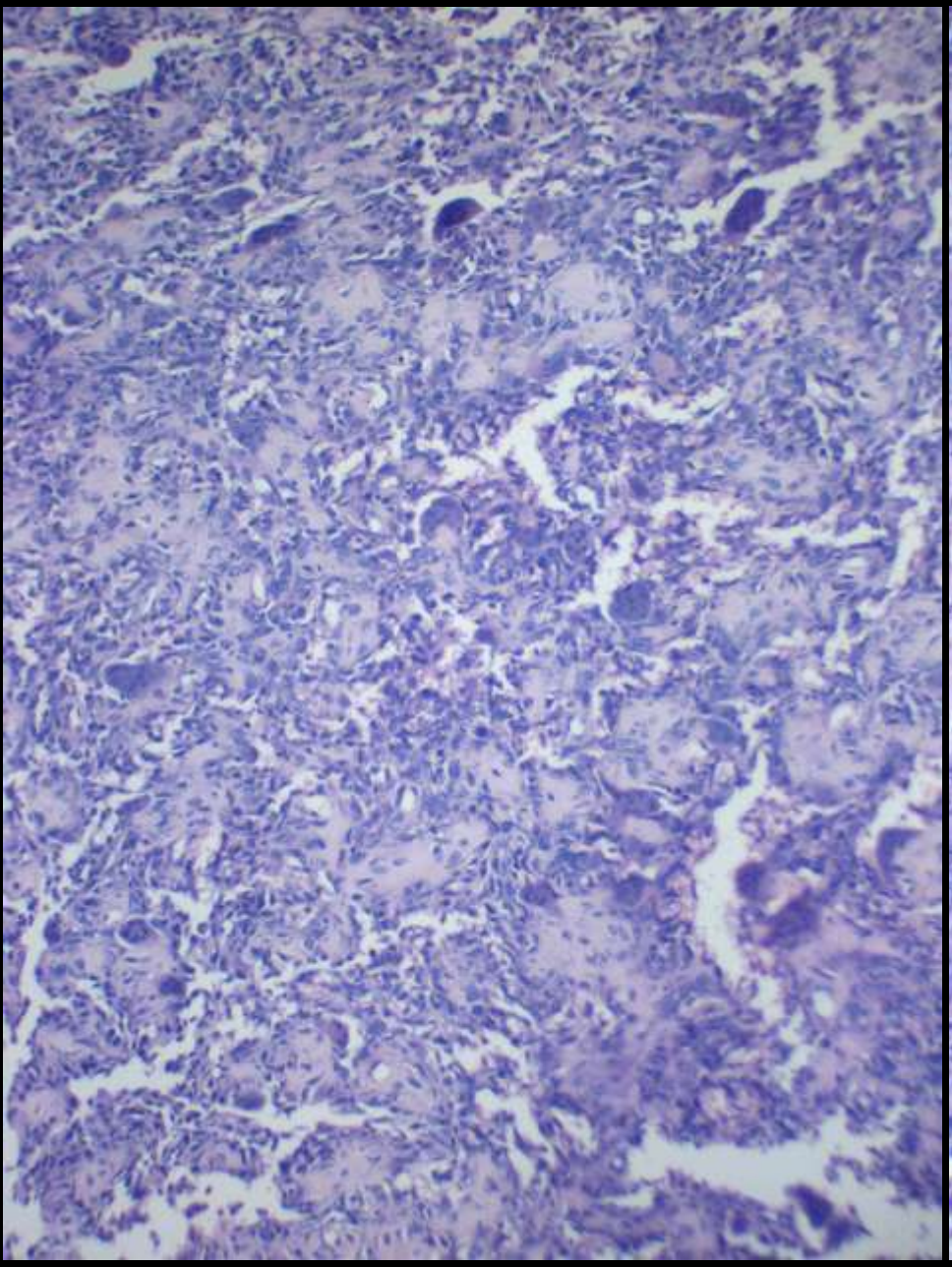



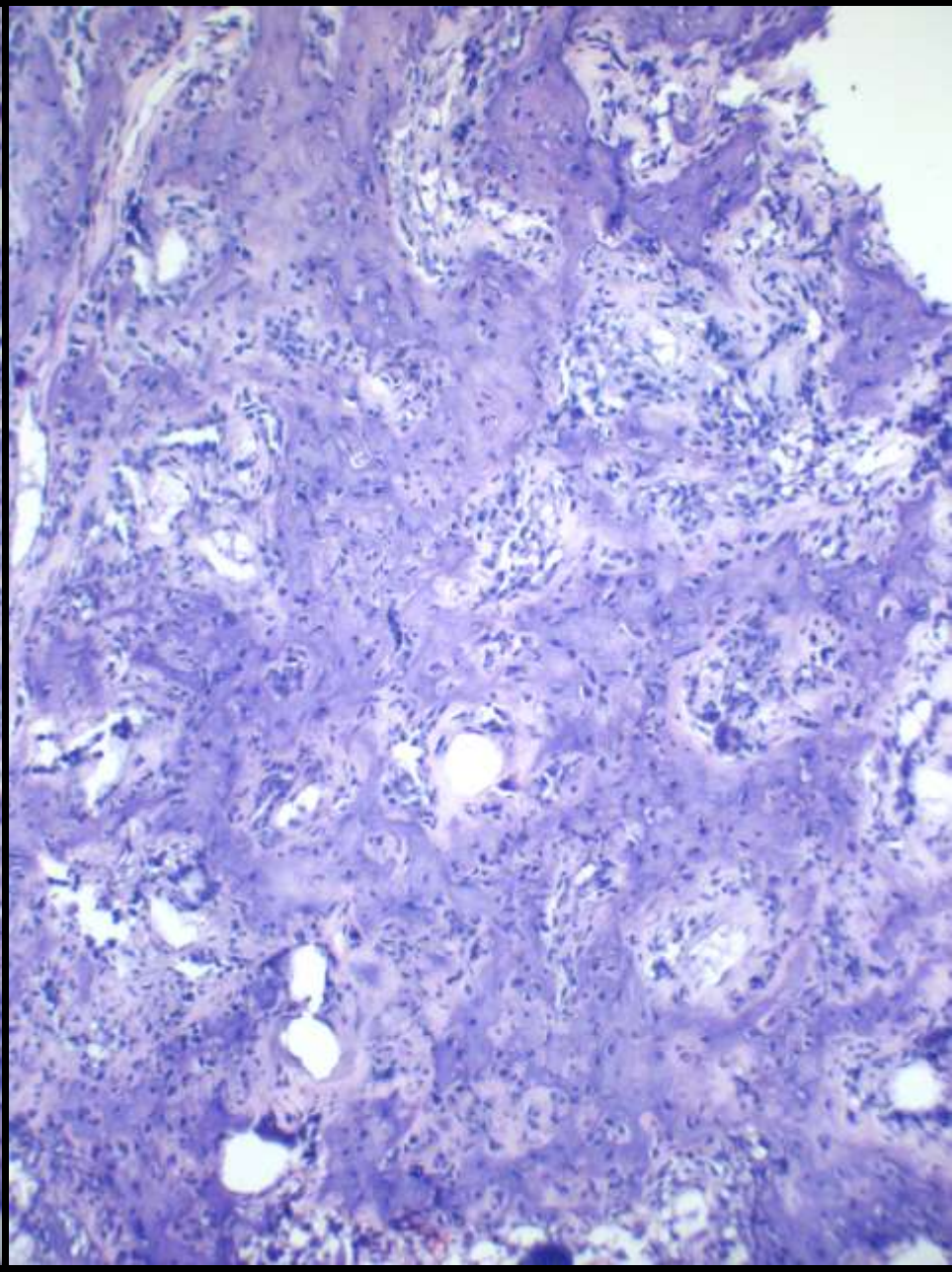


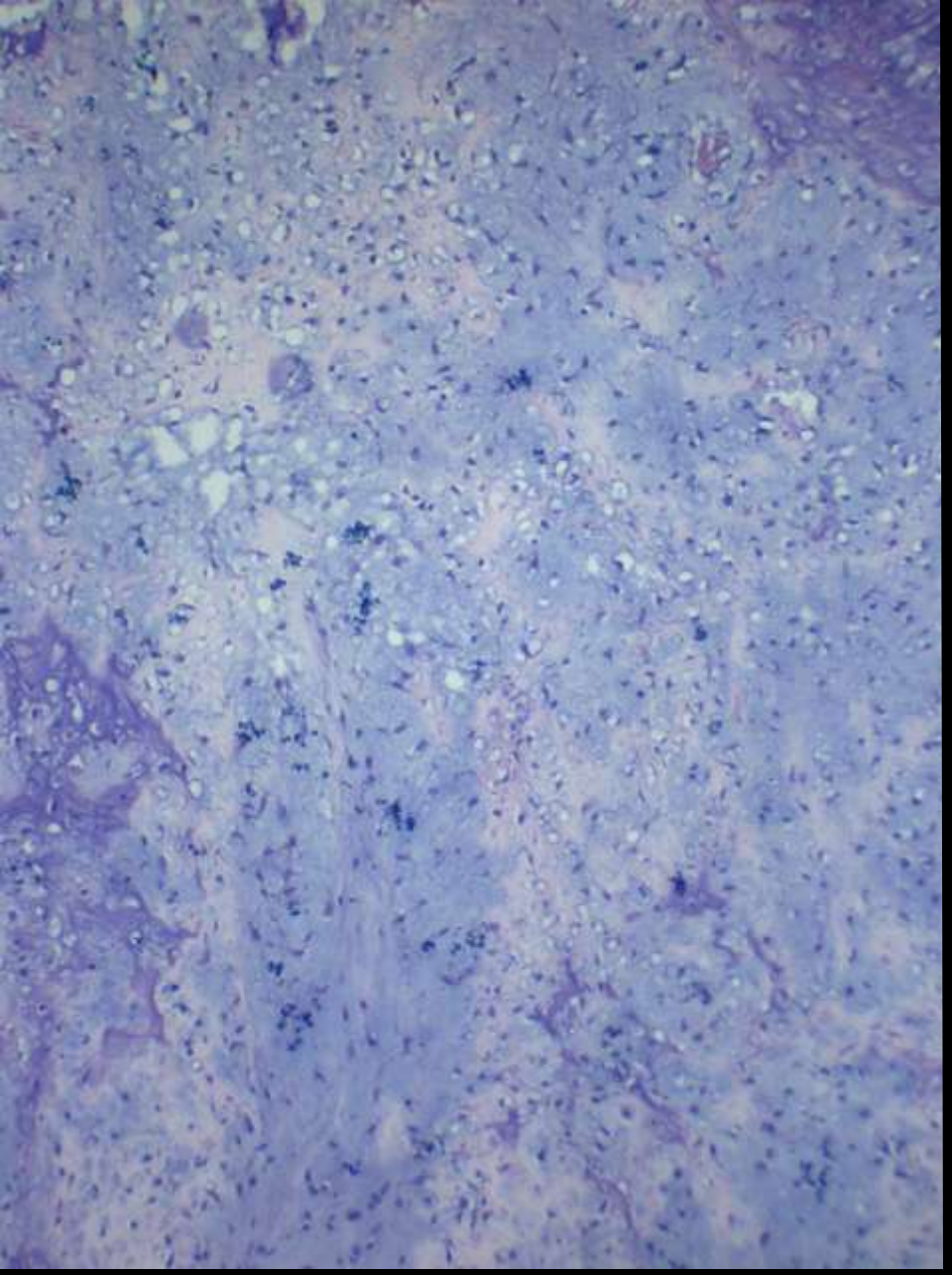
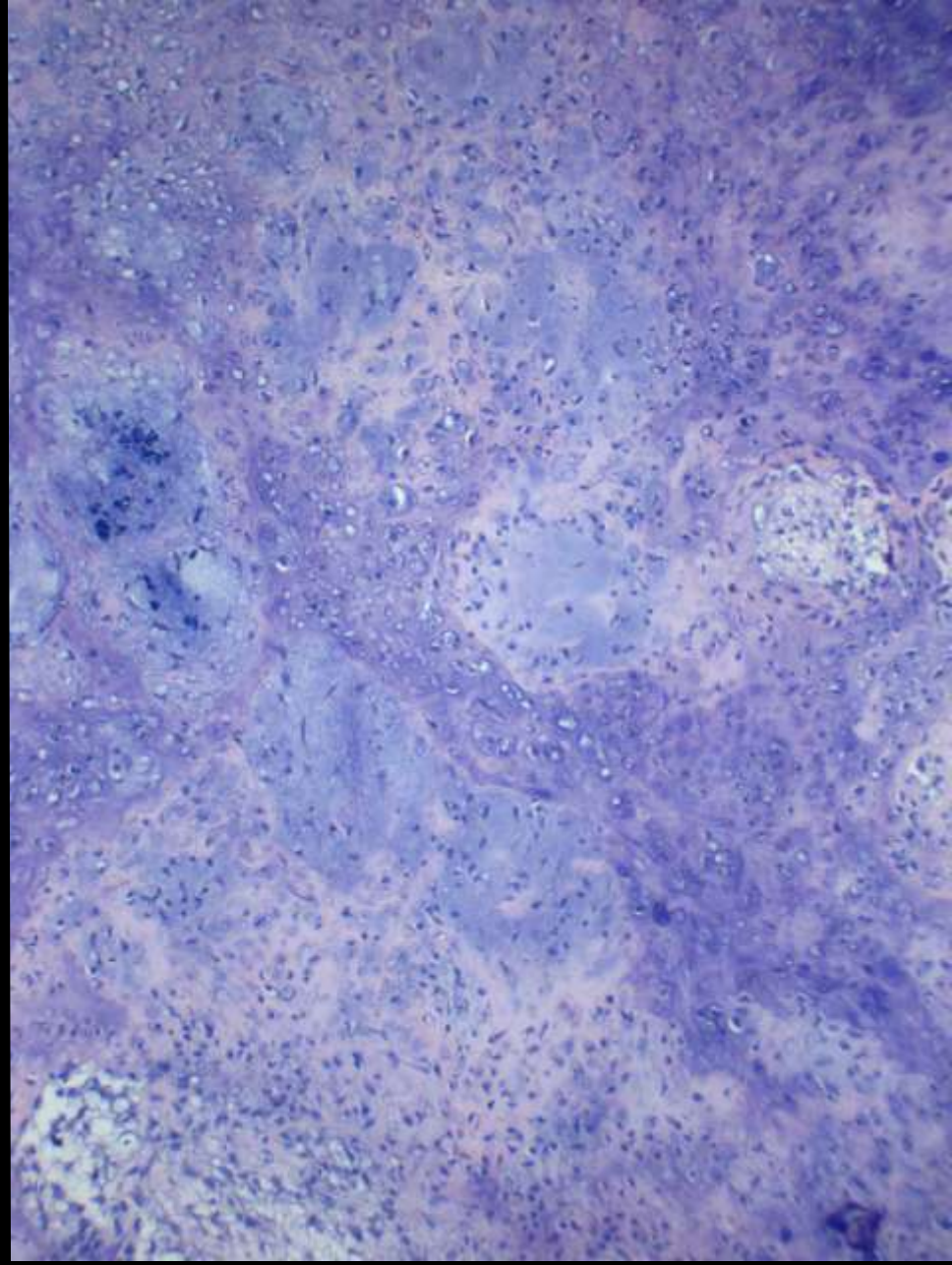


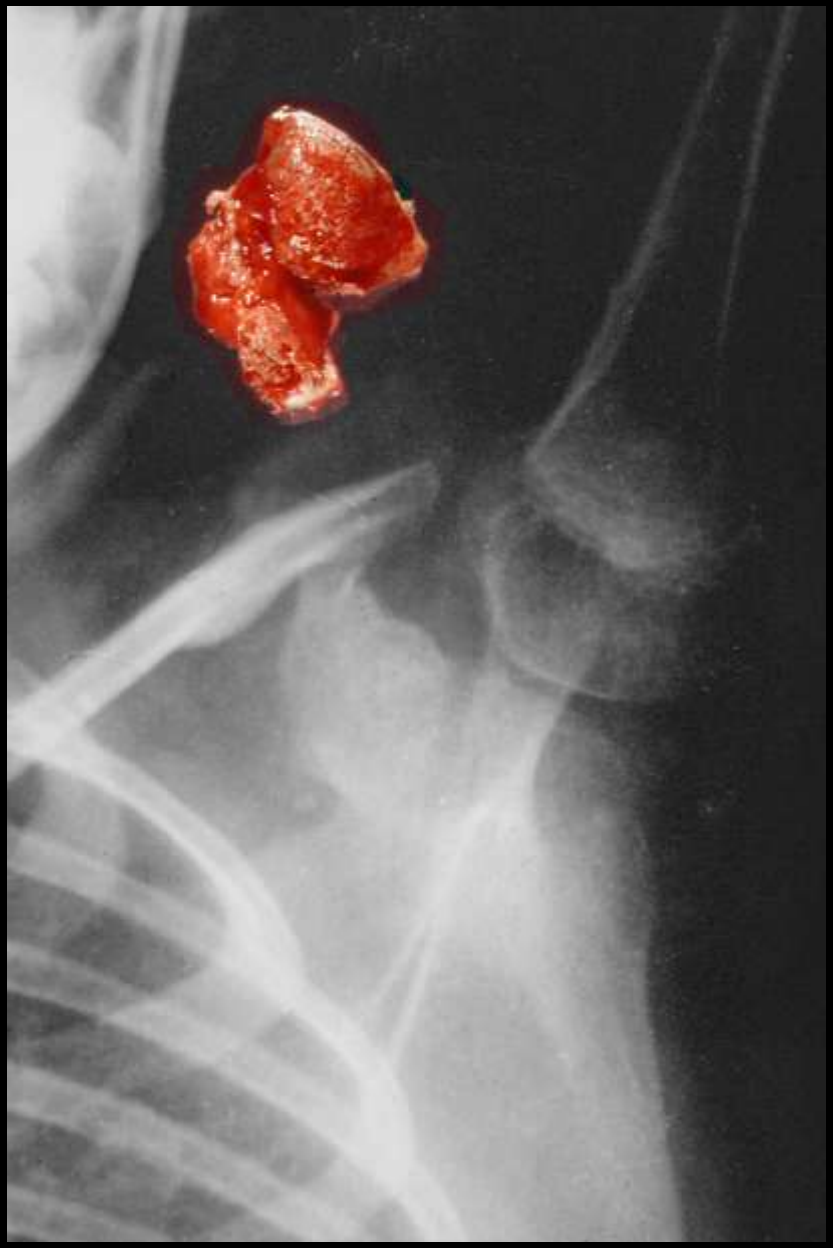


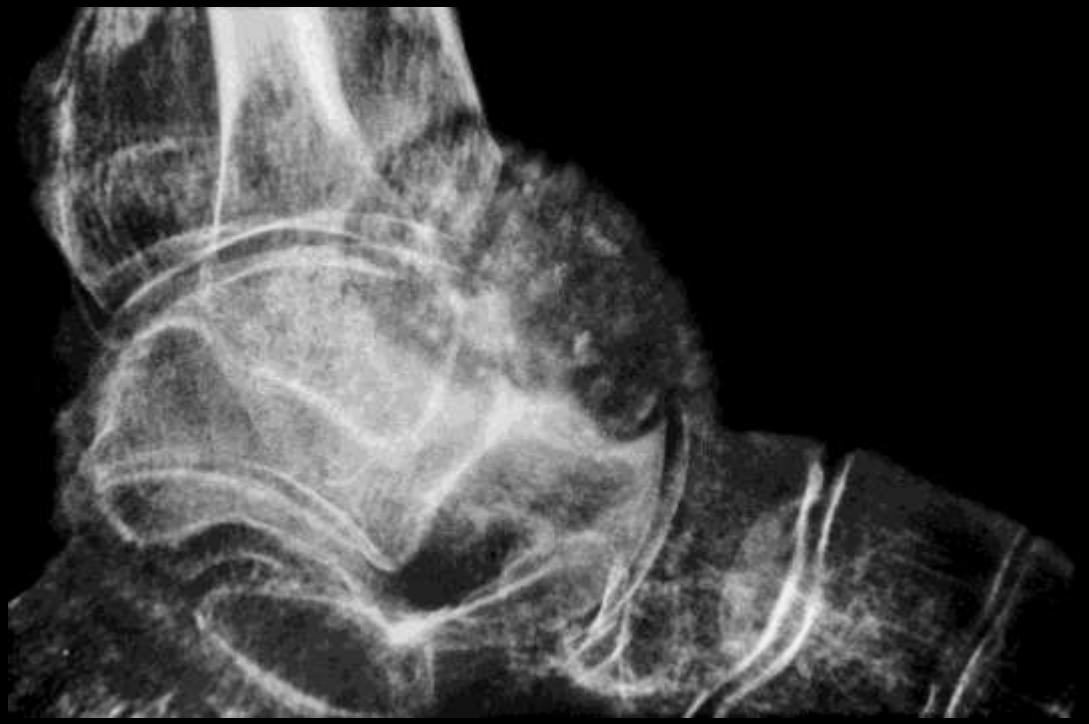


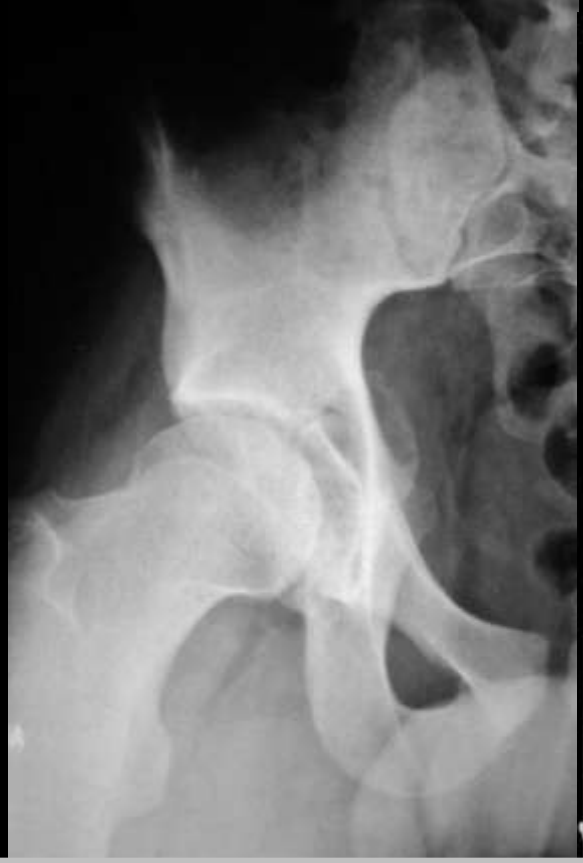


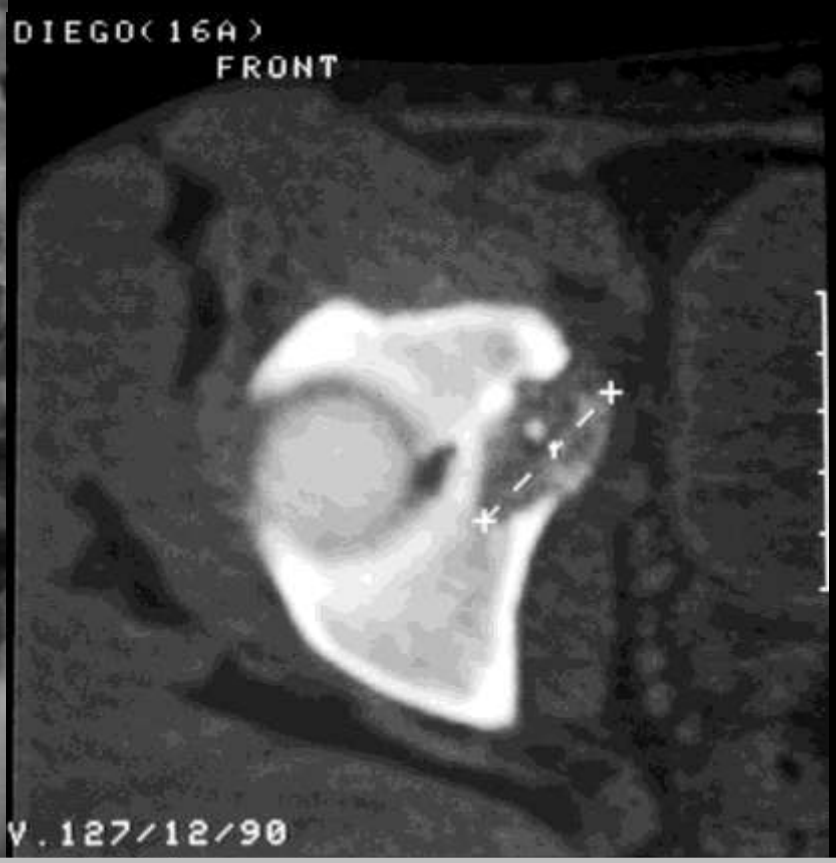


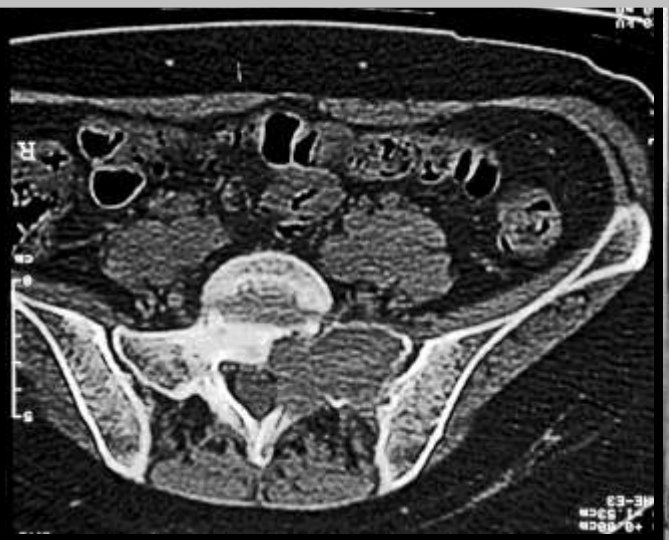



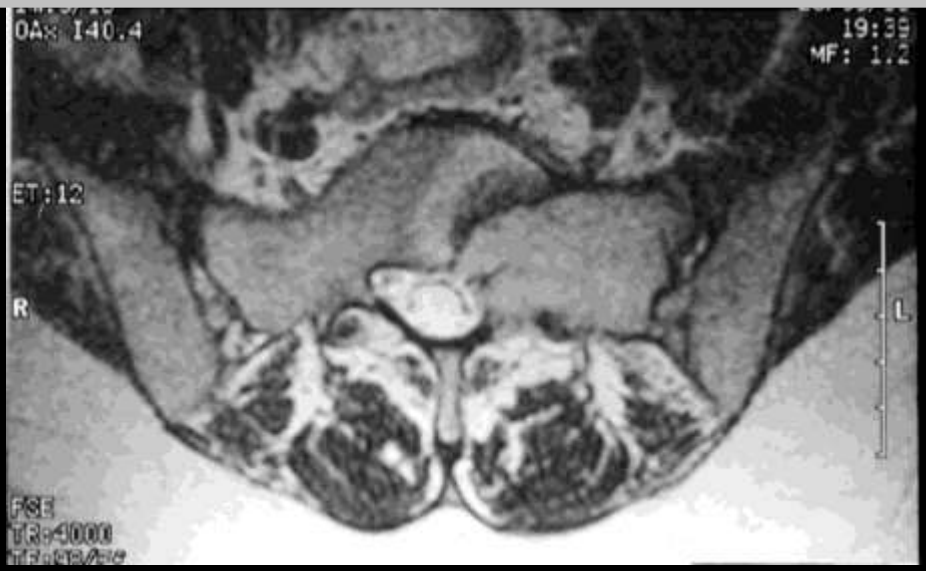







DIEGO(16A)
FRONT
V.127/12/90

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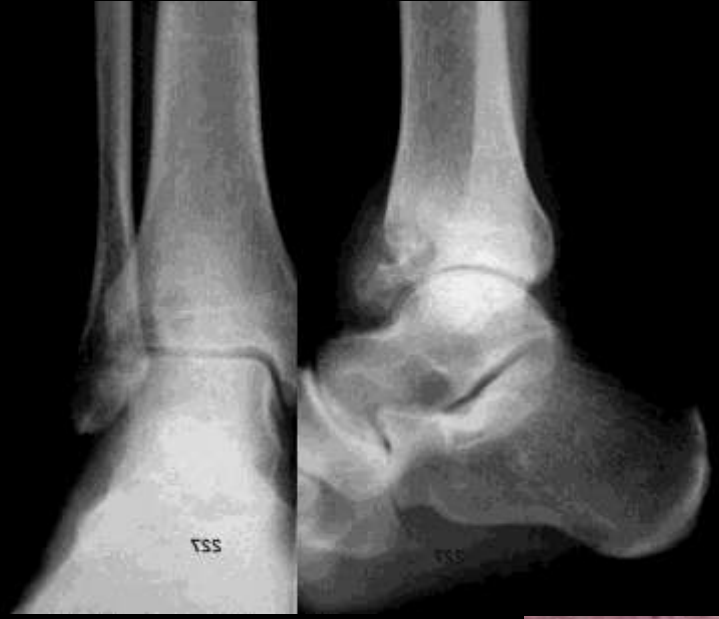
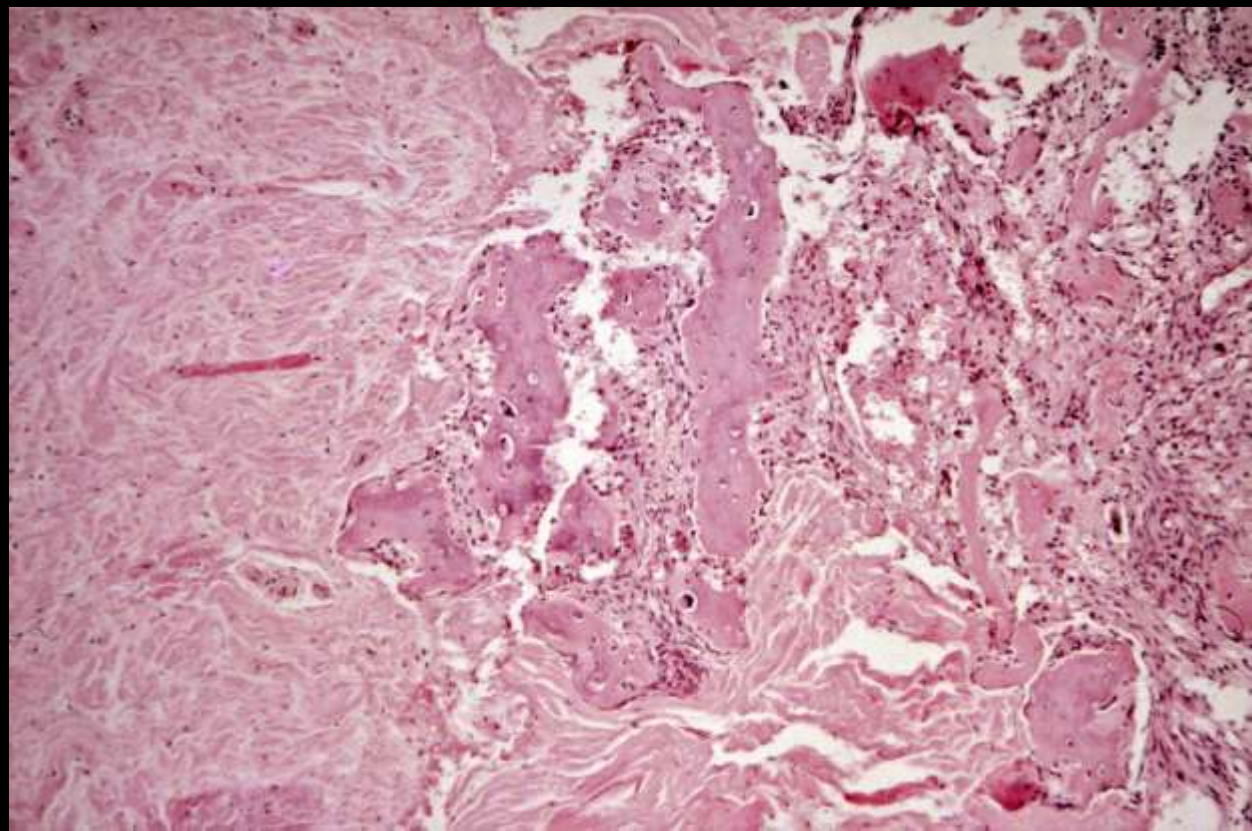
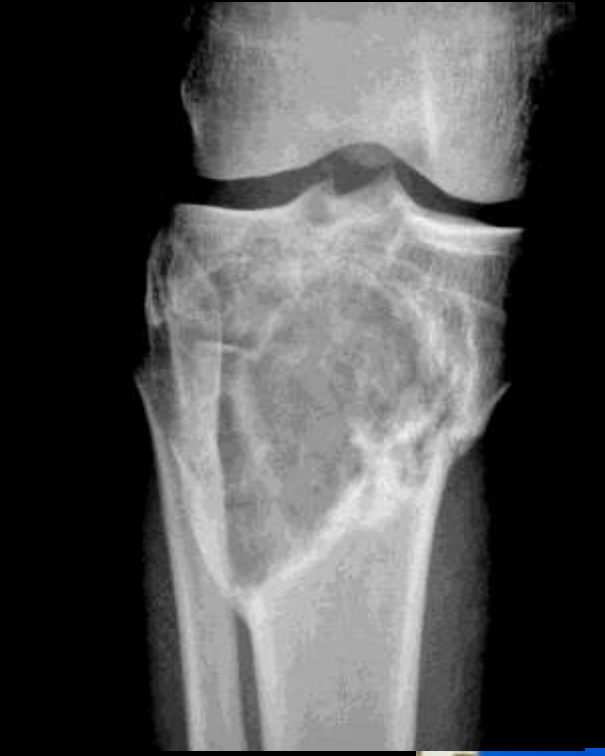
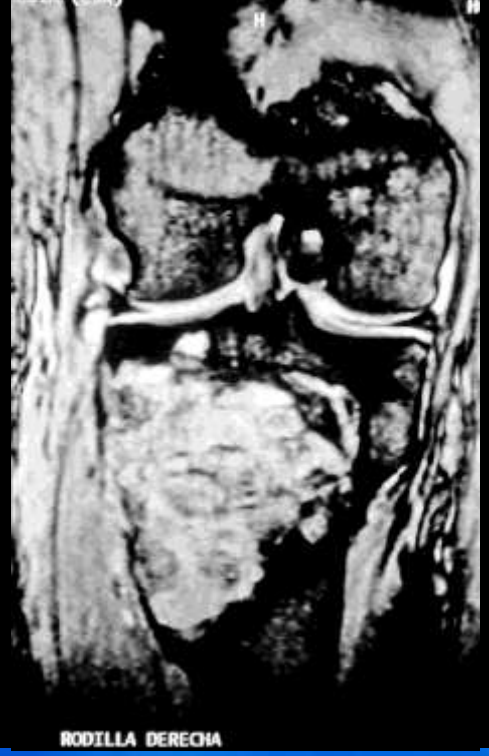
19:39
MF: 1.2
ET:12
R
L
FSE
TR:4000

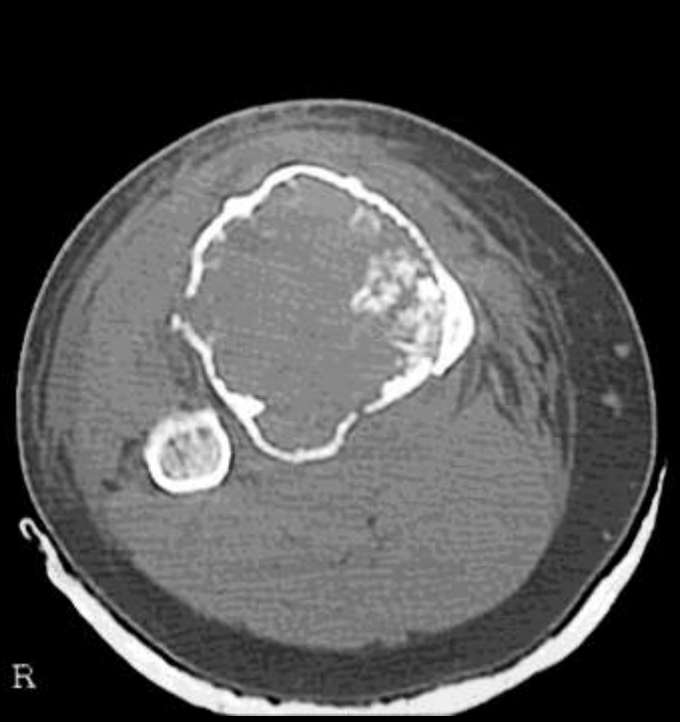


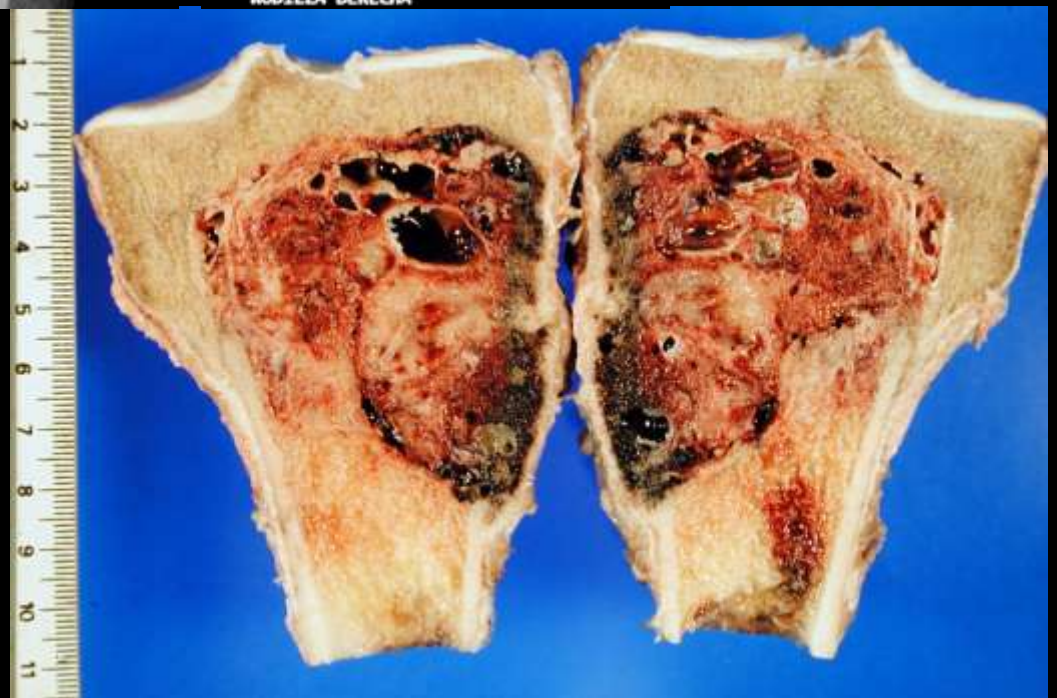


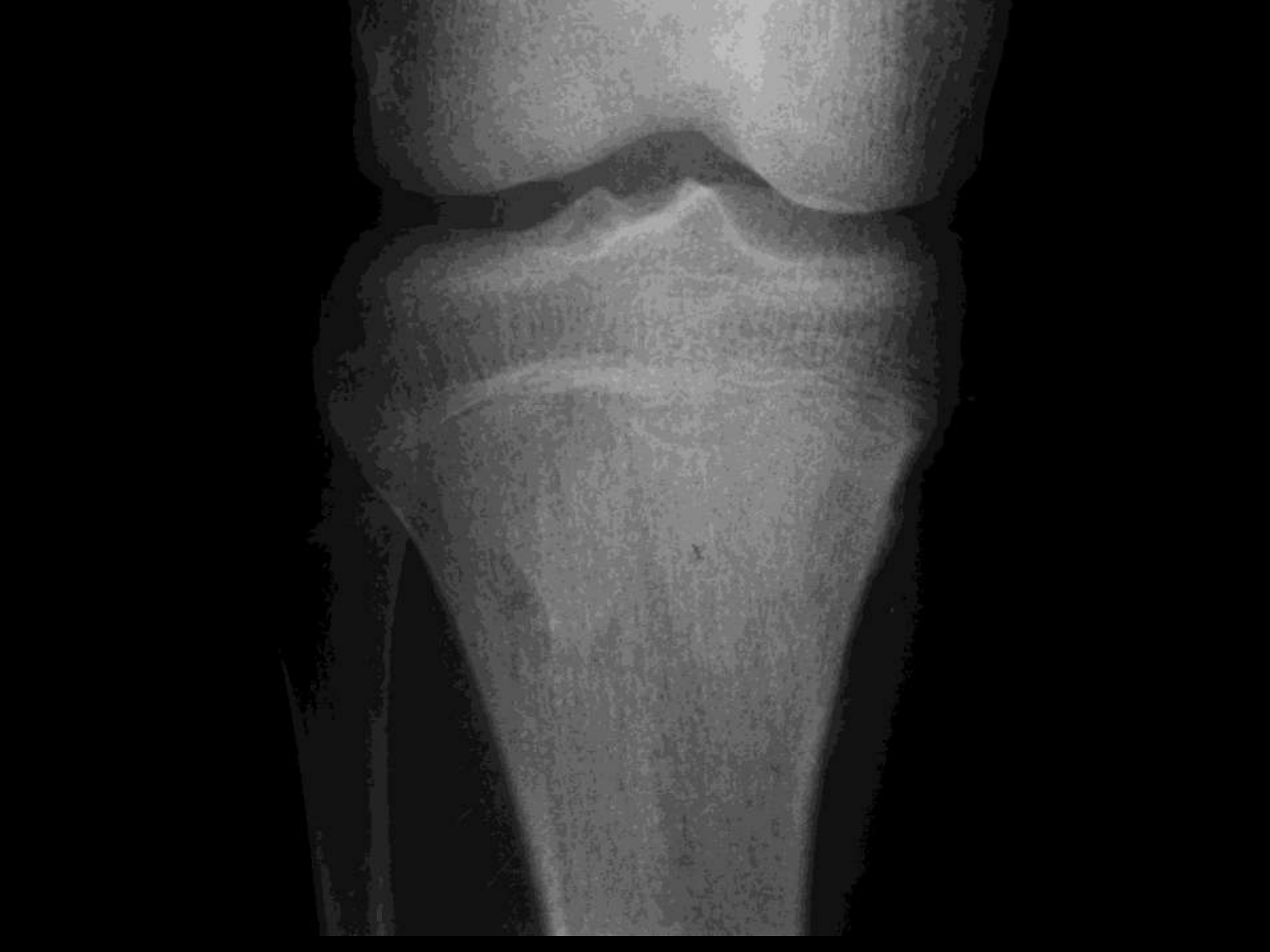


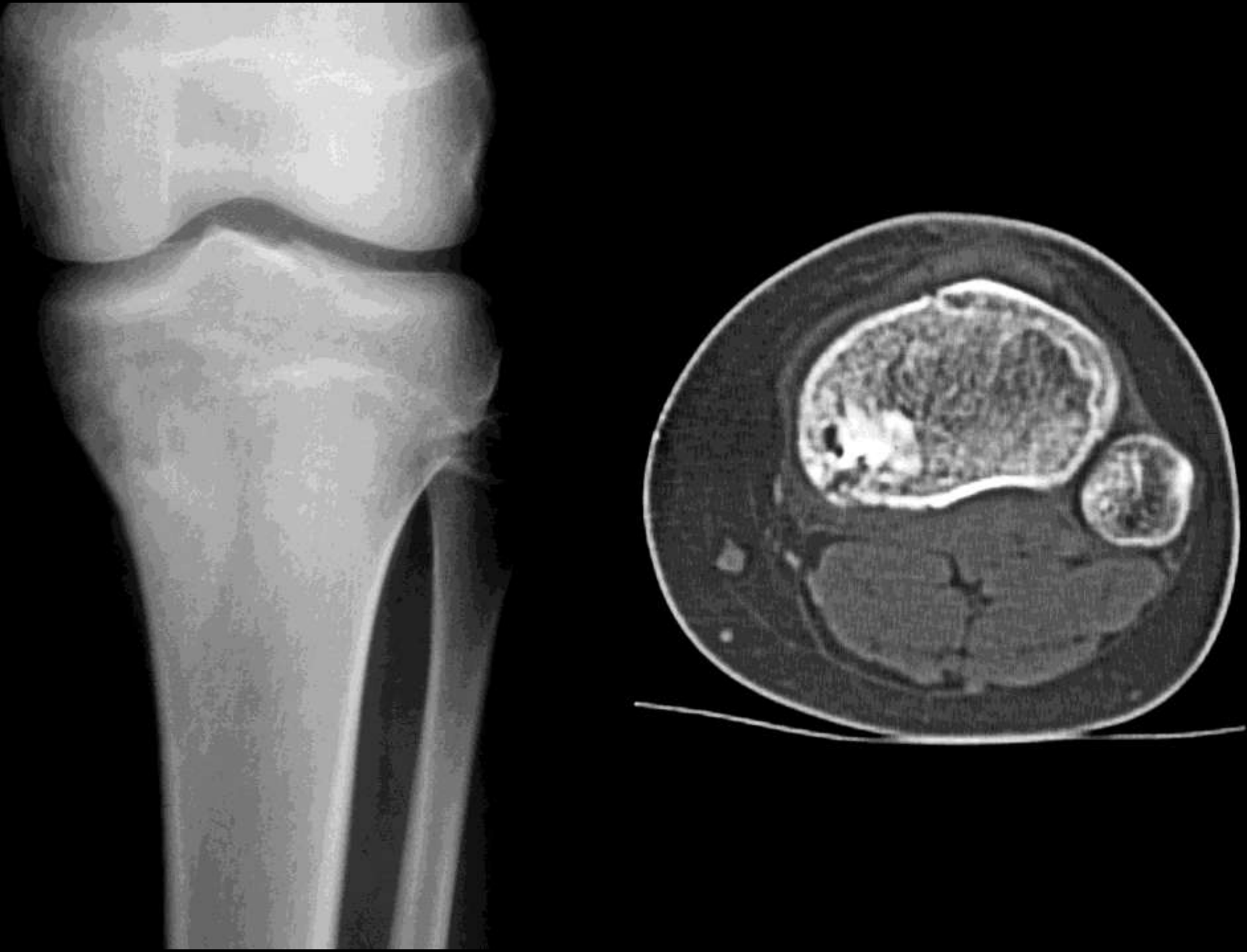


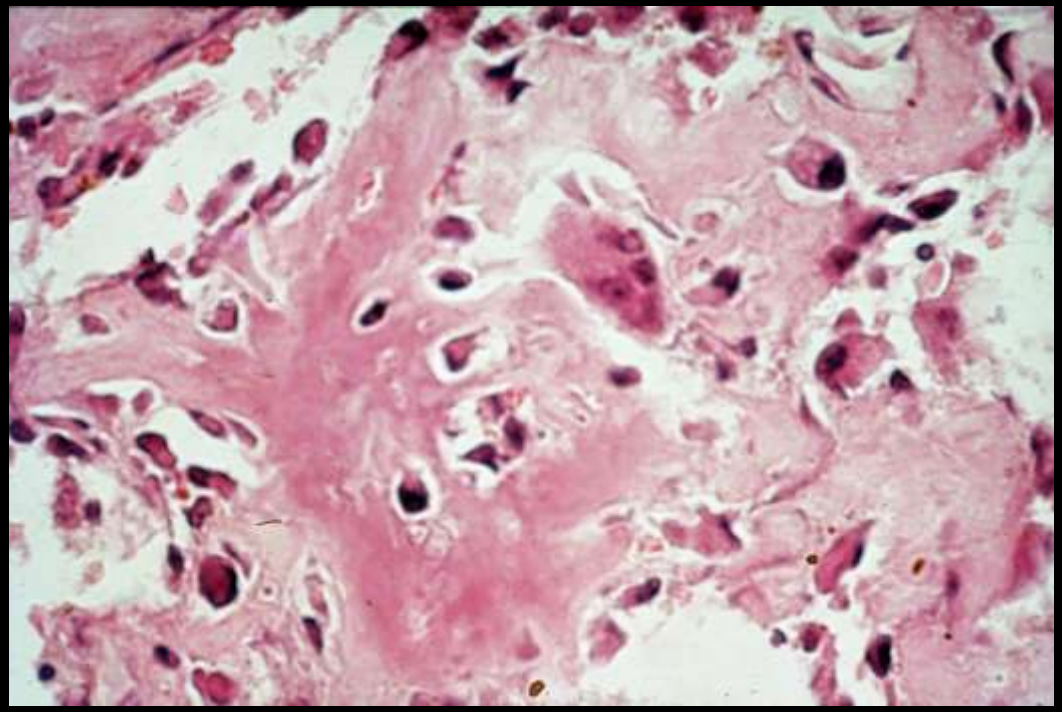
RODILLA DERECHA

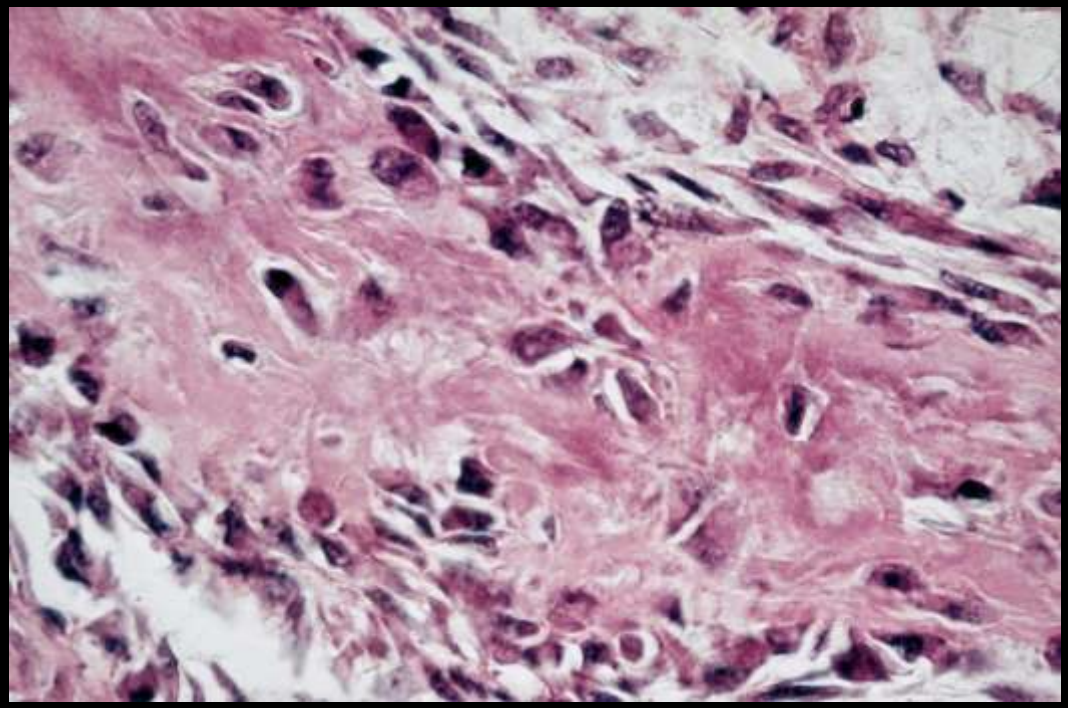












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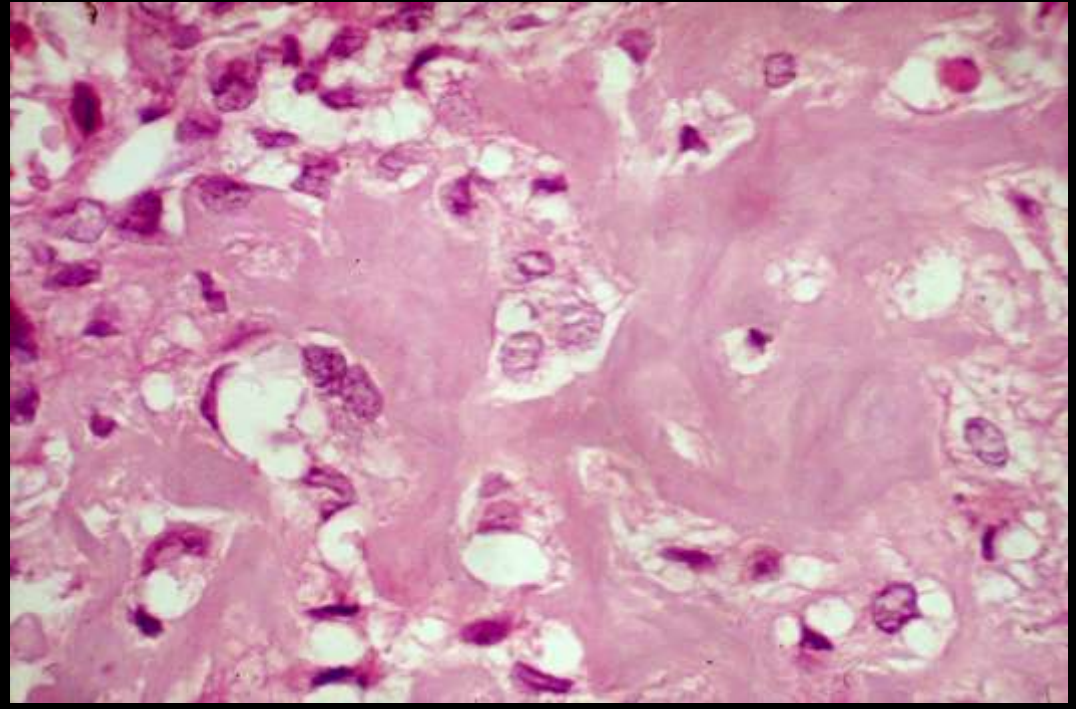
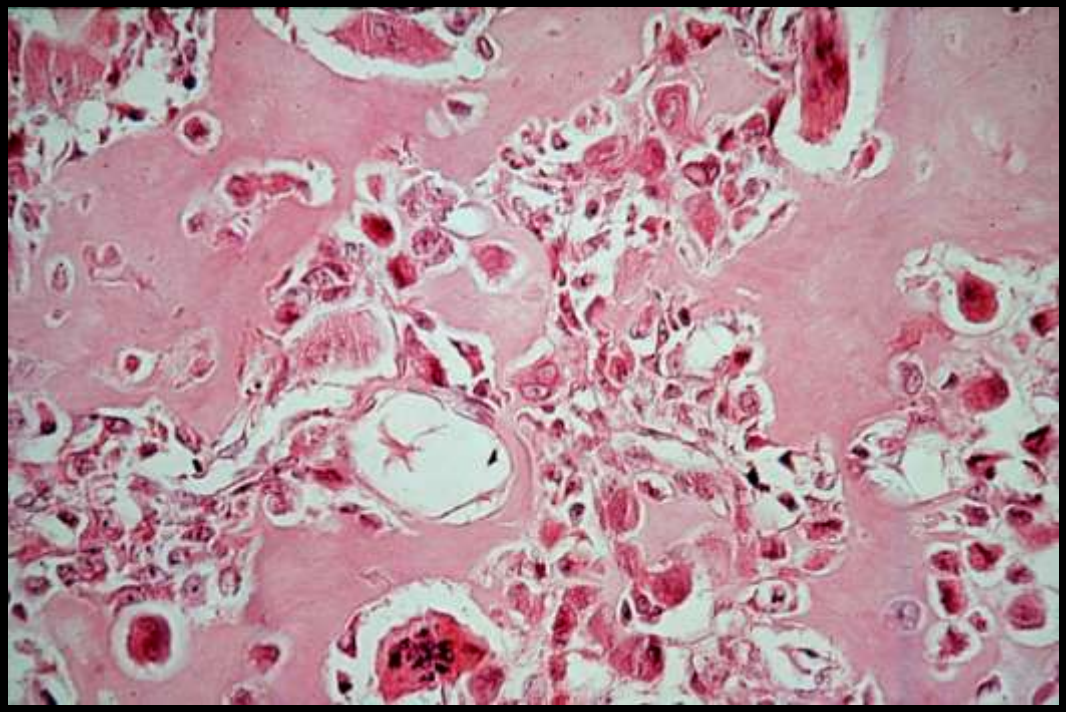




Os.

Malignant degeneration of so-called benign osteoblastoma

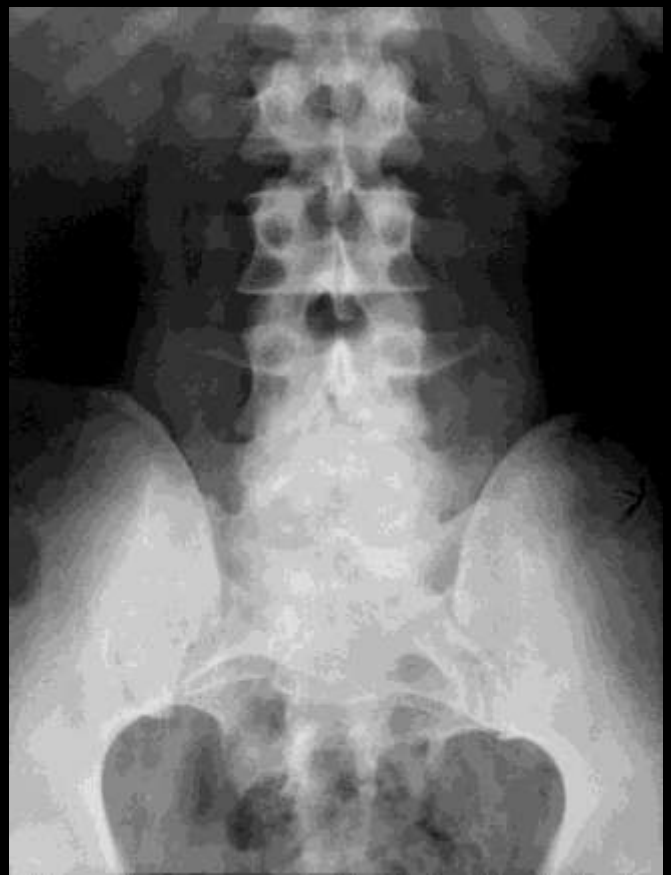
Mayer L
Bull Hosp Joint Dis
28: 4-13

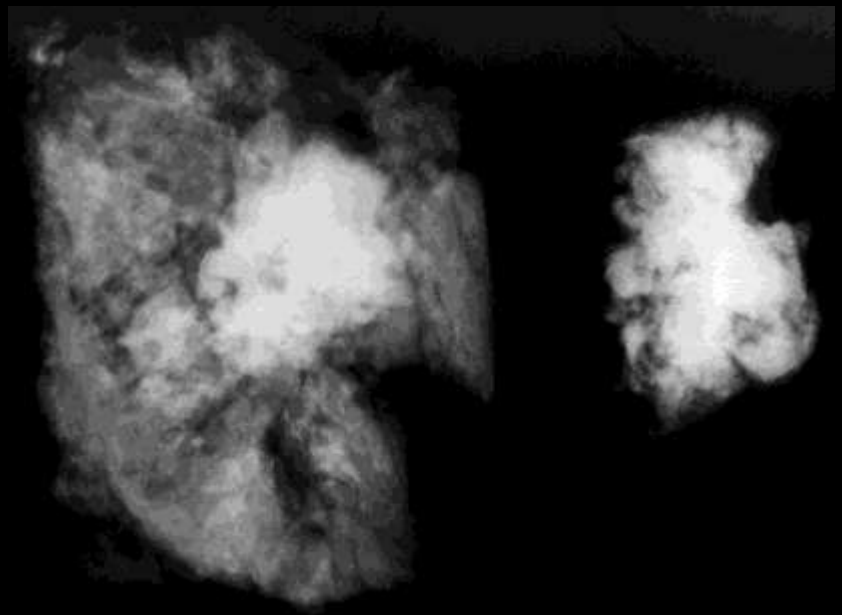
1967

Malignant transformation of benign bone lesion

Dorfman HD
Proc Nat Cancer Conf
7: 901-913

1972



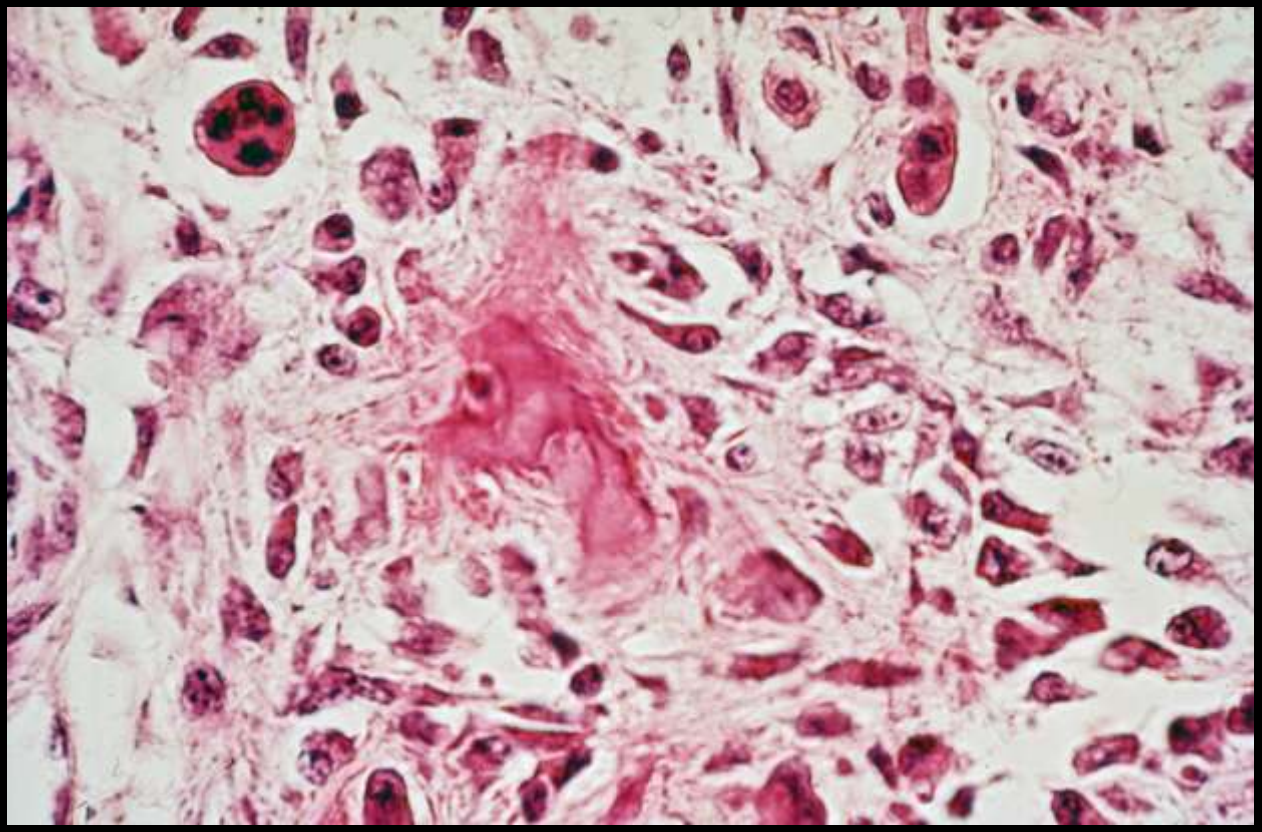


The Spectrum of Osteoblastoma

McLeod RA, Dahlin DC, Beabout JW

AJR 126: 321 - 325

1976



Pseudomalignant Osteoblastoma Versus Arrested Osteosarcoma: a case report

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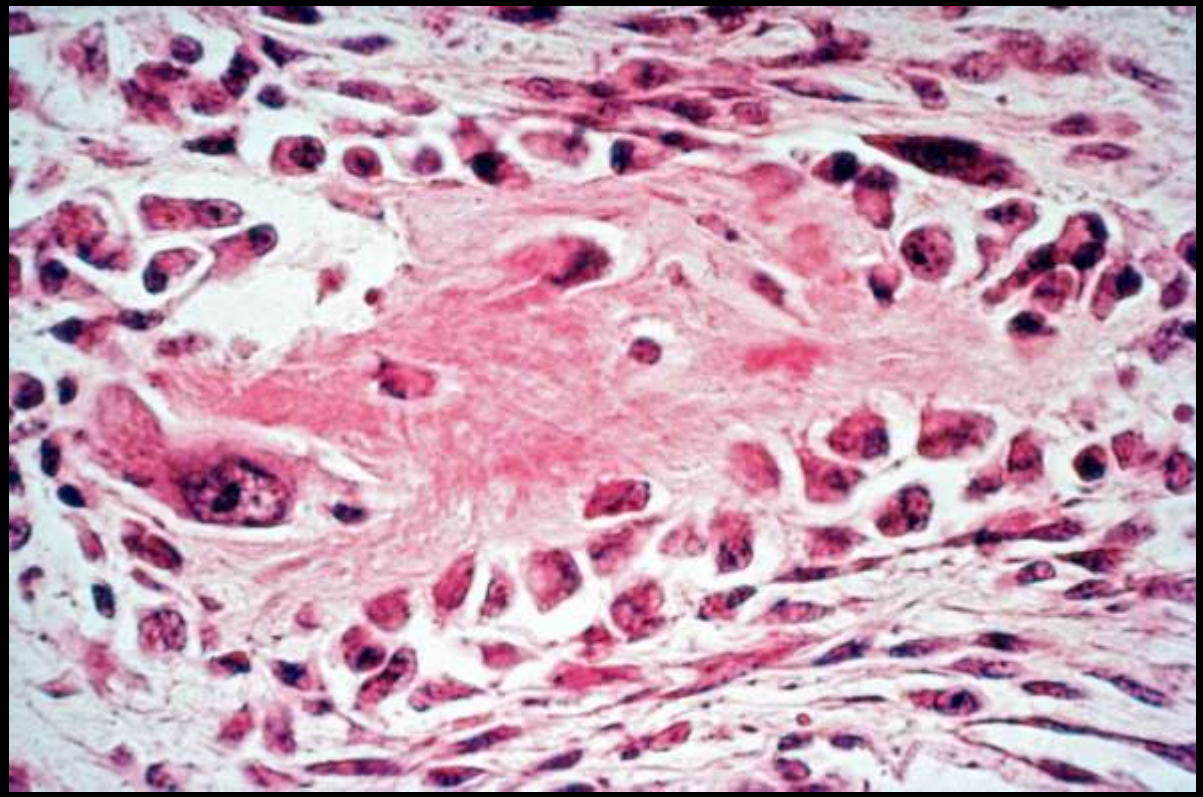
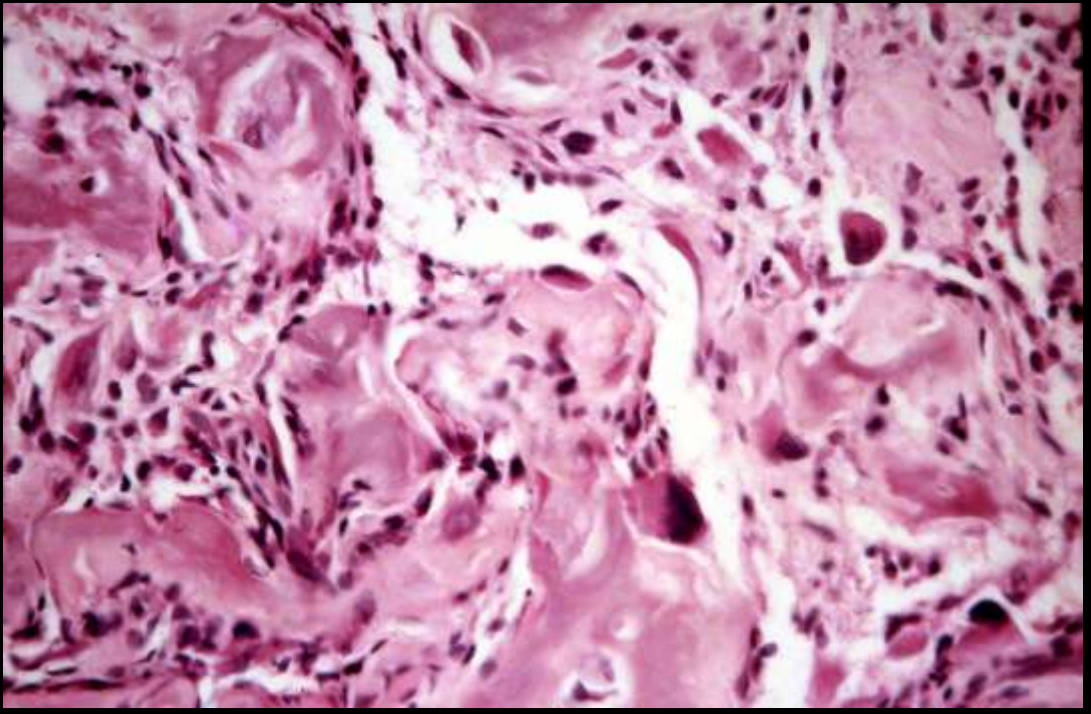
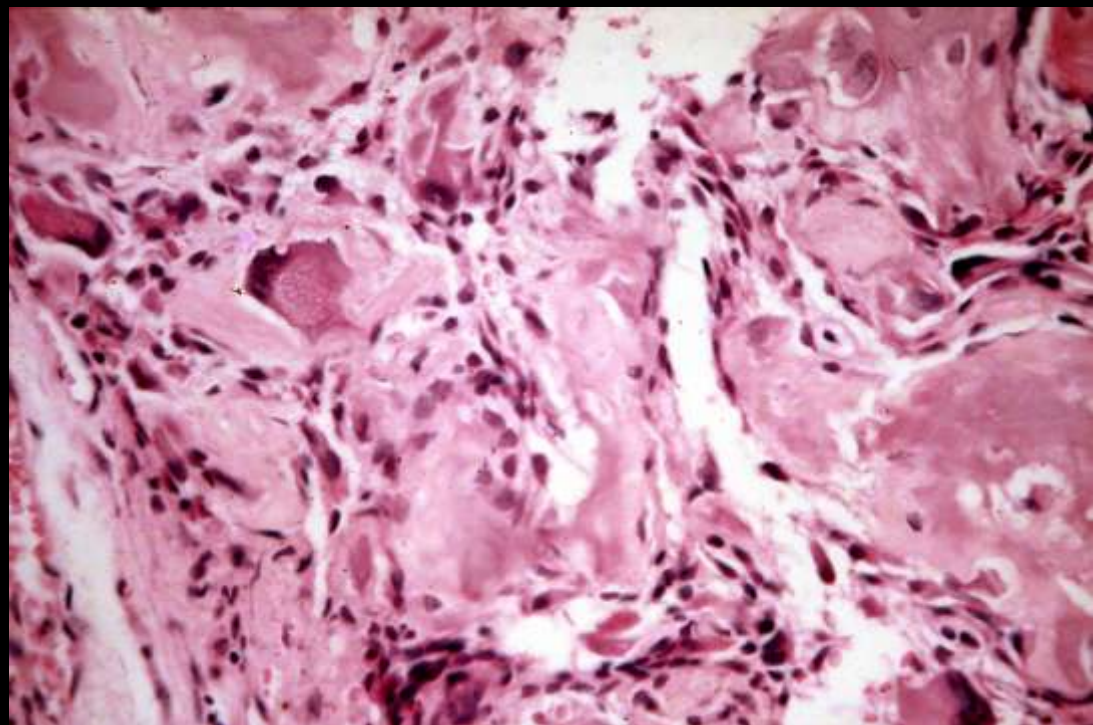
Mirra JM, Kendrick RA, Kendrick RE

Cancer 37: 2005 - 2014

1967







Case records of the Massachusetts General Hospital (case 40n – 1980)

Dorfman HD

N Engl J Med 303: 866 – 873

1980

Tumors of Bone and Cartilage

Spujt HJ, Fechner RE, Ackerman LV

Atlas of Tumor Pathology II, 5. Washigton D.C. AFIP

1981

Borderline Osteoblastic Tumors: problems in the differential diagnosis of Agressive Osteoblastoma and Low Grade Osteosarcoma

---

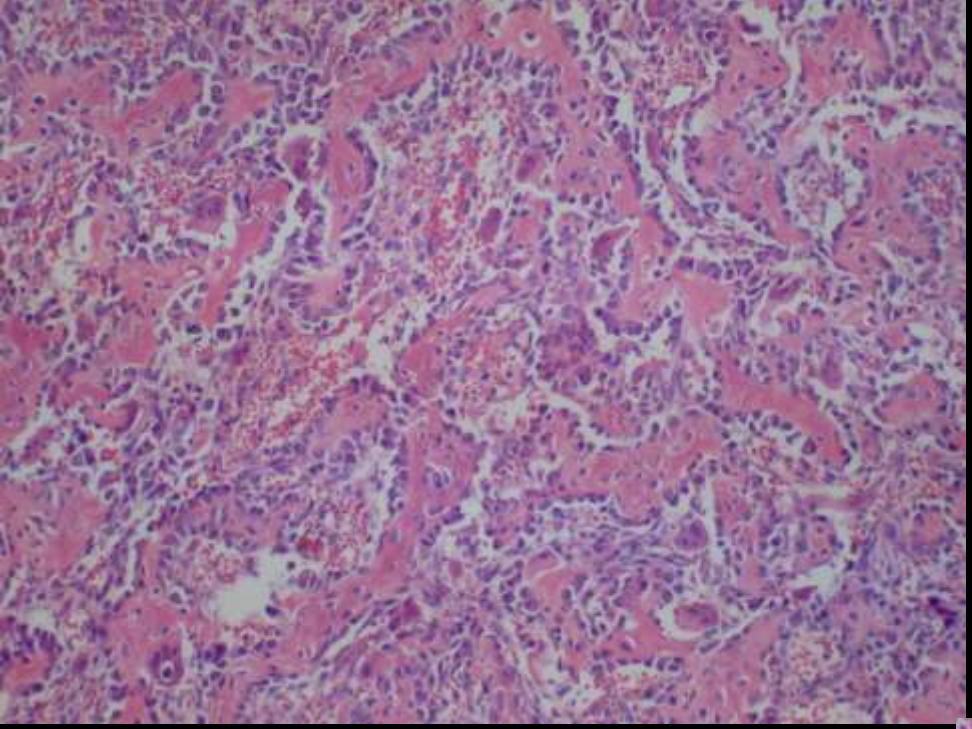
Dorfman HD, Weiss SW
Semin Diagn Pathol 1: 215 – 234

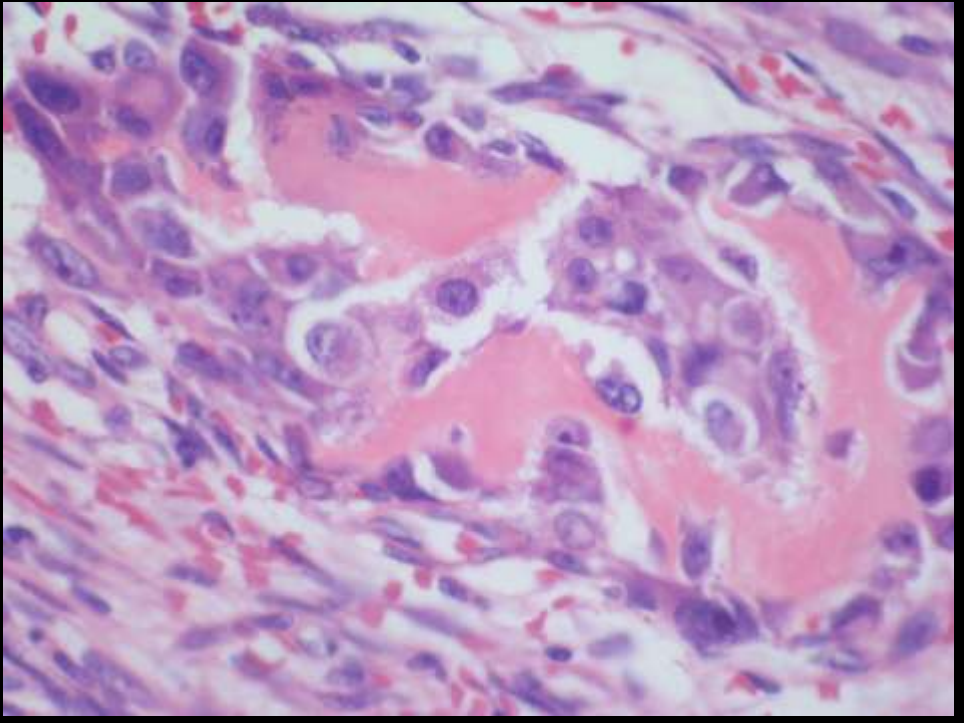
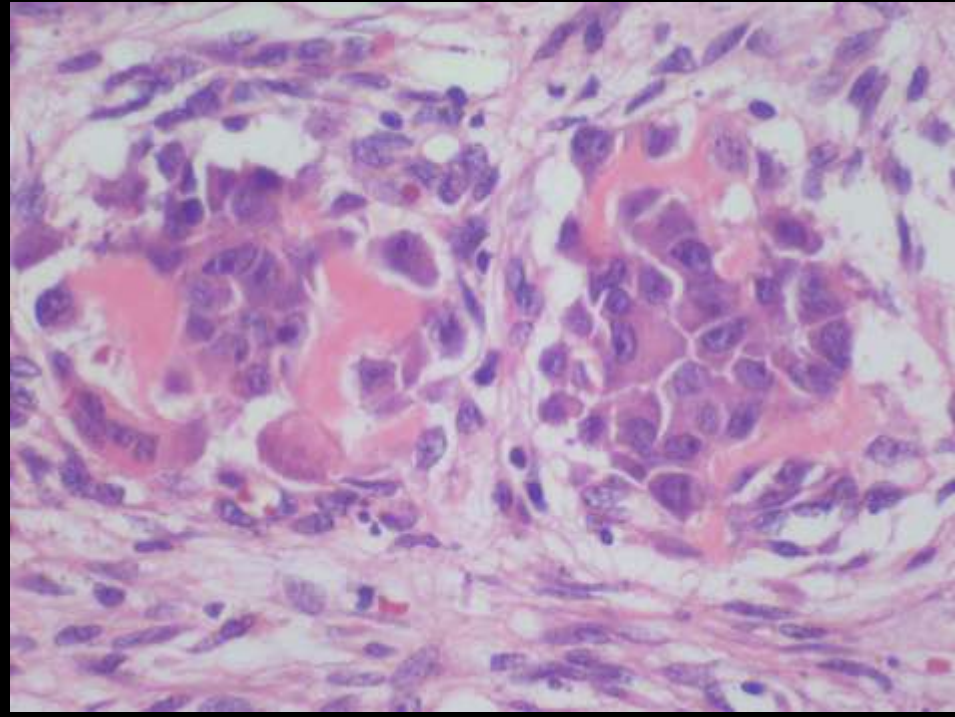
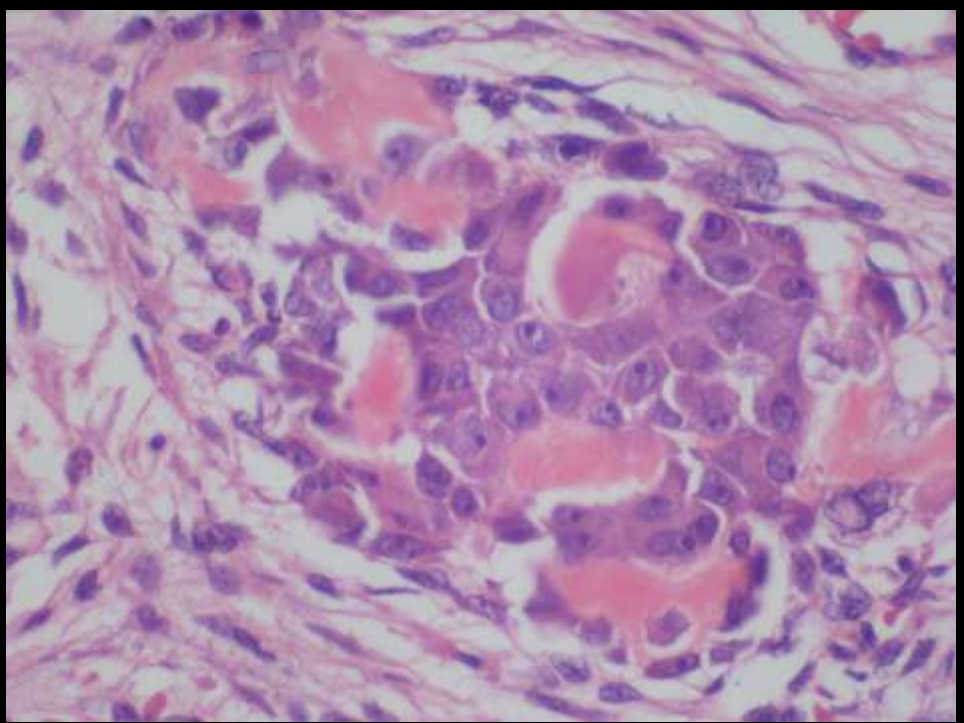
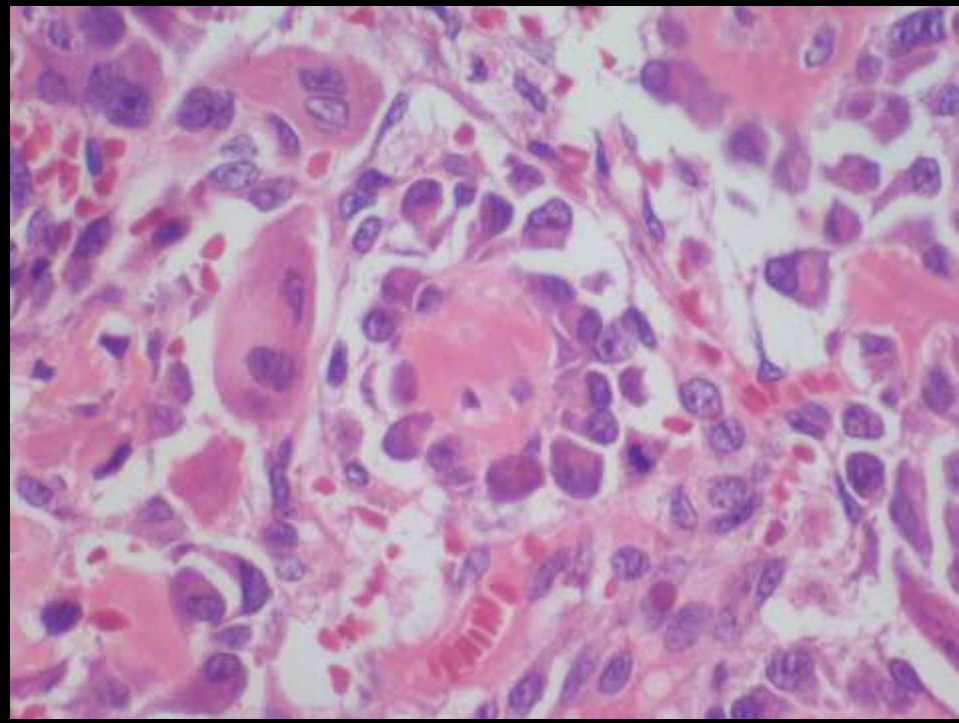
1984

Agressive Osteoblastoma: Differential Histologic Features

- Epithelioid osteoblasts
- Trabecular or sheet-like osteoid - Osteoclastic resorption

- No lace-like osteoid
- No permeation of surrounding intertrabecular spaces
- Low mitotic rate
- No atypical mitosis

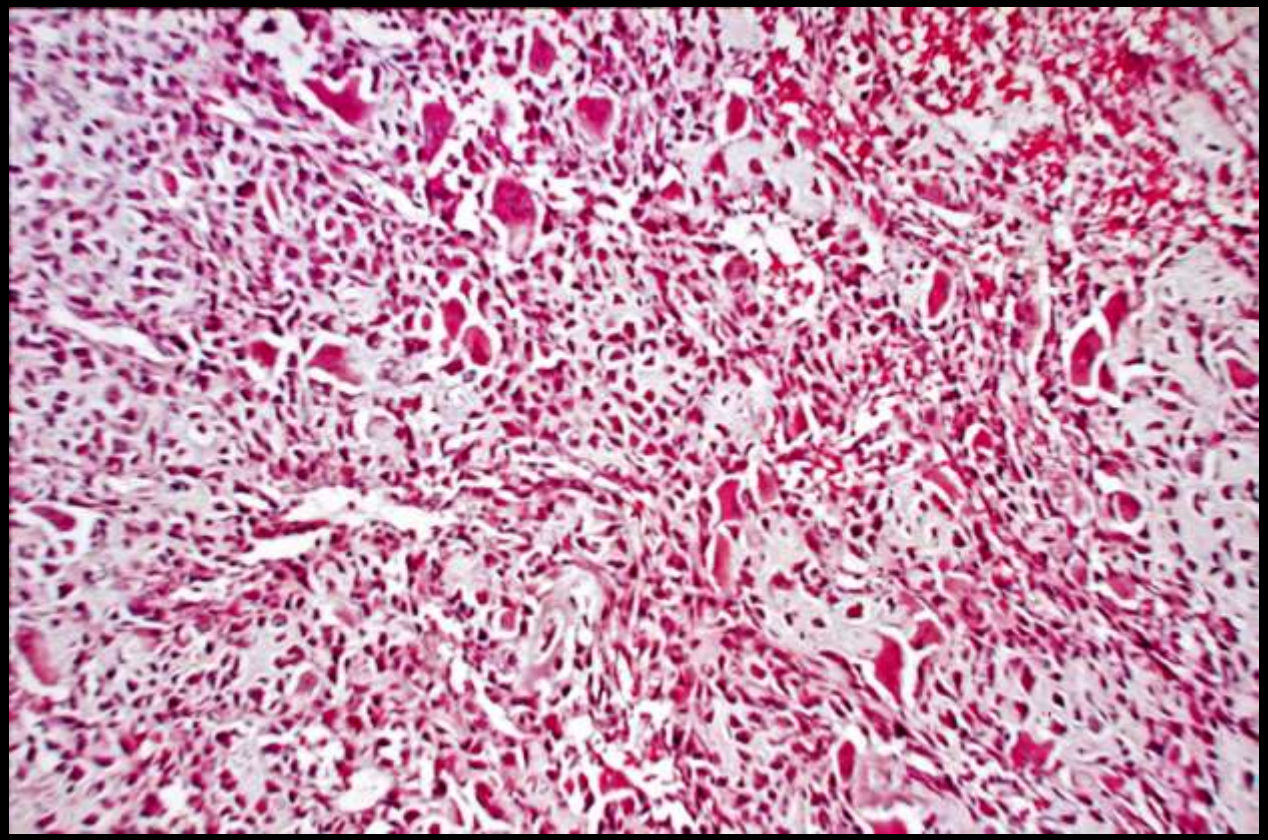


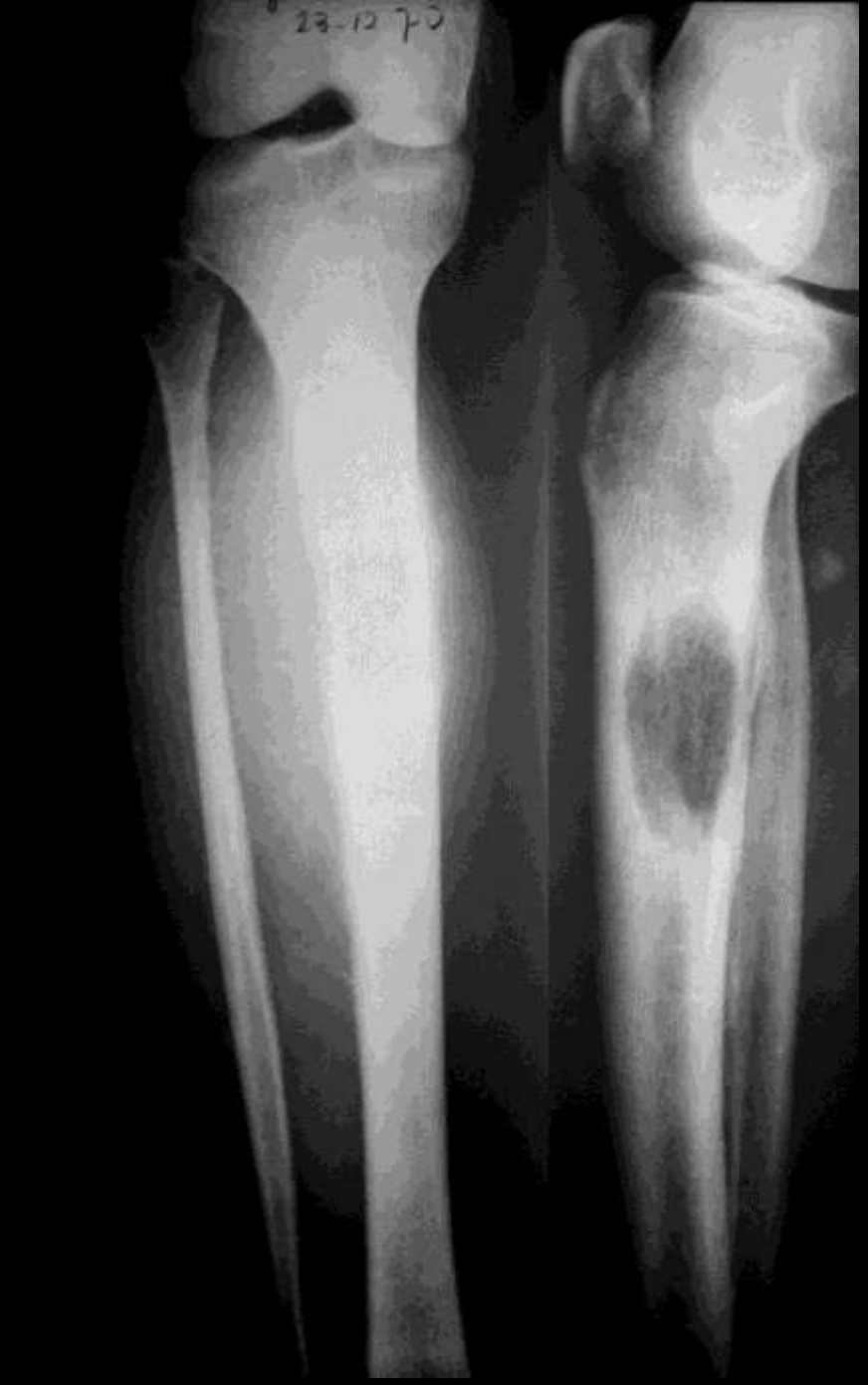





Malignant Osteoblastoma

Schajowicz F, Lemos C
J Bone Joint Surg
58 B: 202 – 211

1976

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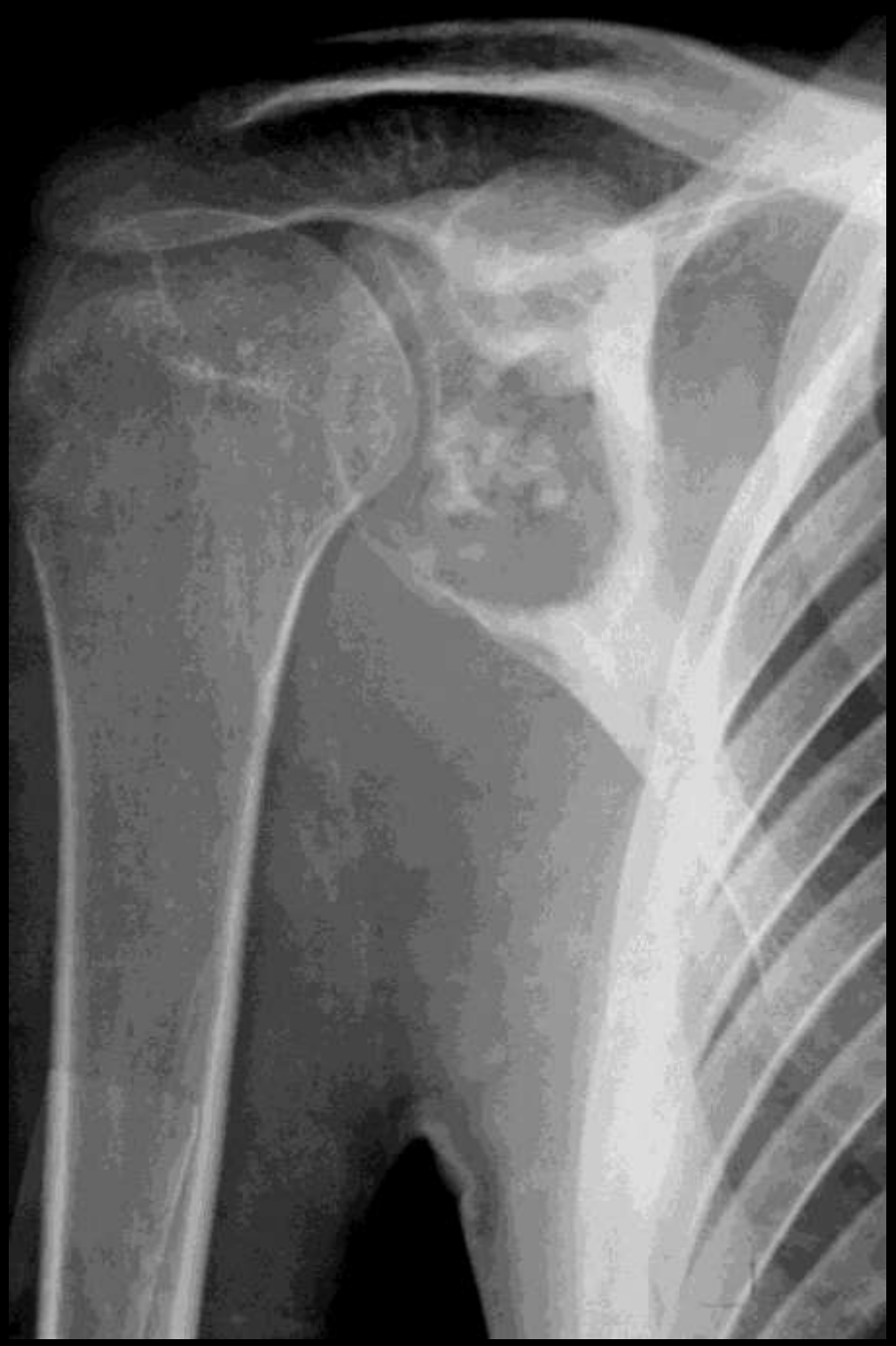
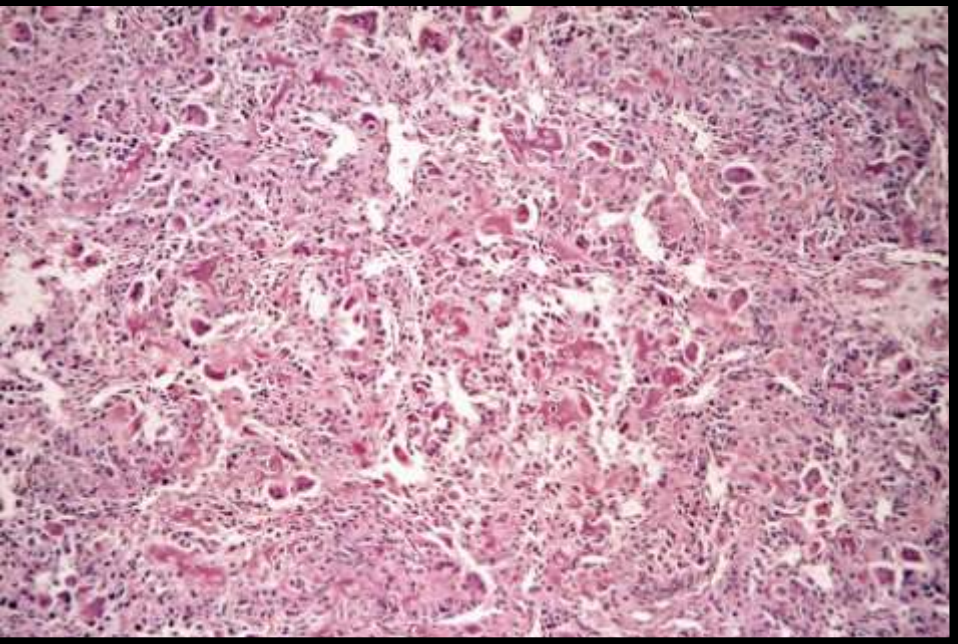
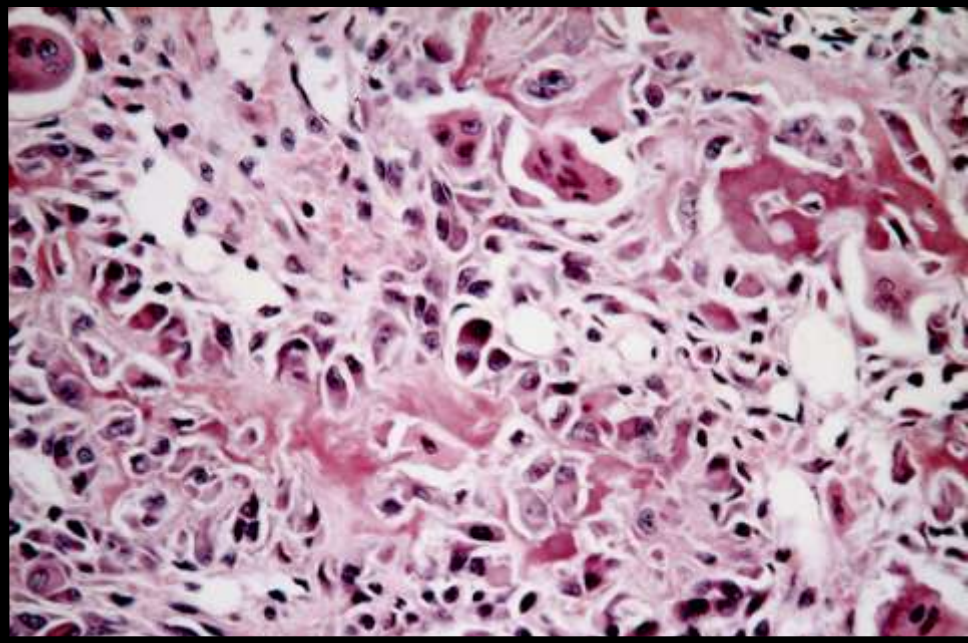
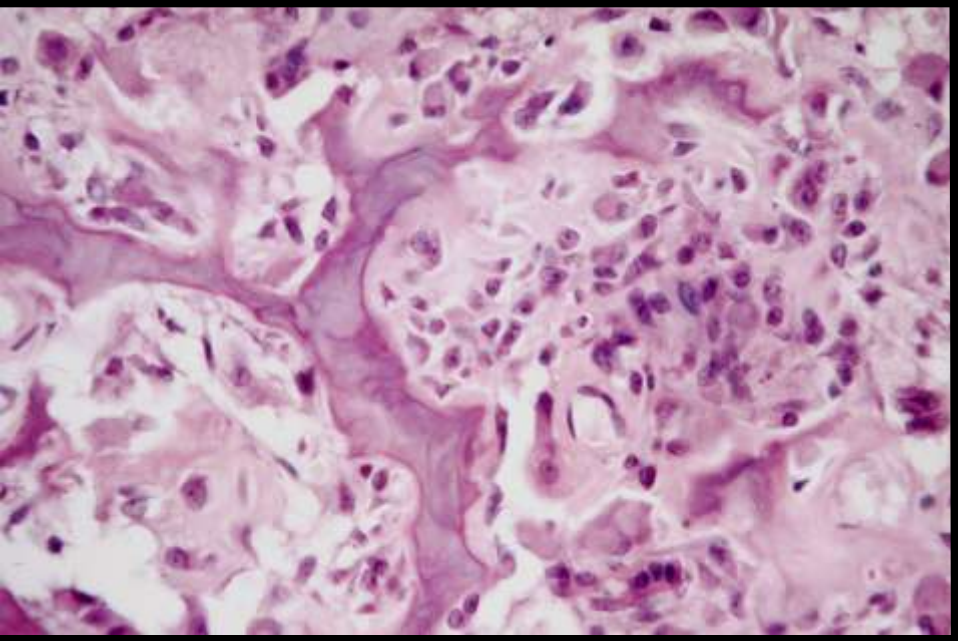
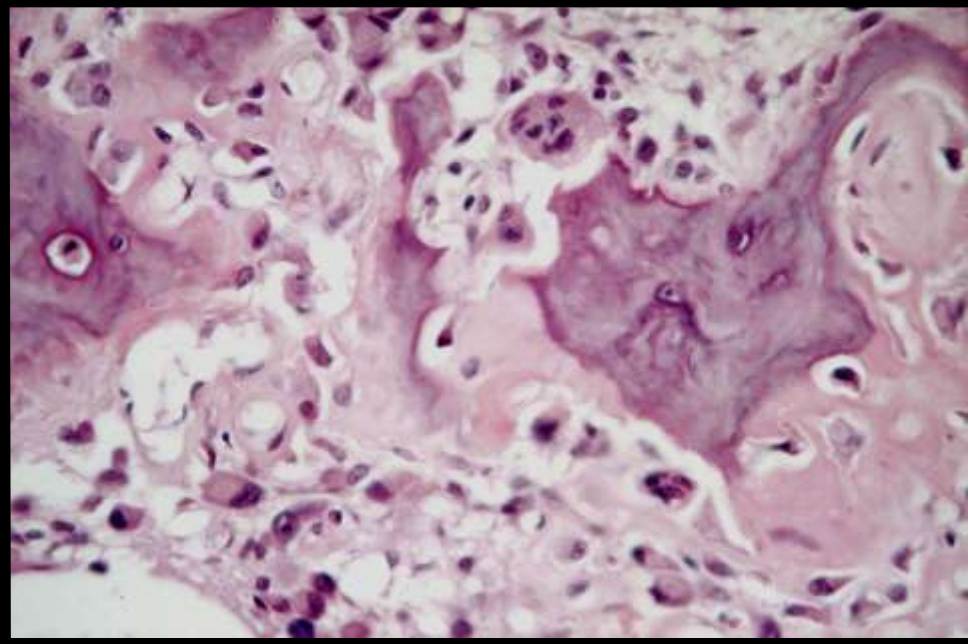


Osteosarcoma Resembling Osteoblastoma

Bertoni F, Unni KK
McLeod RA, Dahlin DC

Cancer 55: 416 – 426

1985

A category of low-grade osteosarcoma, and believed:

"that malignant osteoblastoma and aggresive osteoblastoma are really osteosarcomas that resemble osteoblastoma"

Differential Histologic Features of Osteoblastoma and Osteoblastoma-Like Osteosarcoma

Feature	Osteoblastoma	Osteosarcoma
Cytoarchitectural organization	Trabeculae of osteoid rimmed by osteoblasts; spindle cells, osteoclasts, and capillary vessels between trabeculae	Large cells with abundant deepstaining cytoplasm, large nucleus with big nucleolus, and osteoclasts may be present between trabeculae of osteoid

Differential Histologic Features of Osteoblastoma and Osteoblastoma-Like Osteosarcoma

Feature	Osteoblastoma	Osteosarcoma
Mitotic rate	Generally low	Generally high
Atypical mitosis	No	May be present
Zonal phenomenon	Yes	No
Permeating bone growth	No, sometimes multifocal	Yes
Margins	Wel defined	Permeation and inflamation
Sheets of cells without bone production	No	Yes

“The d.d. is impossible to make with limited tissue, for example, from a needle biopsy, and may be impossible even with adequate tissue.”

Bertoni et al. 1985.

Two rare variants of OBL have to be considerer in the d.d.

multifocal osteoblastoma

pseudomalignant osteoblastoma

Bertoni et al. 1985.

The morphologic spectrum of osteoblastoma: is its "aggressive" nature predictable?

Bertoni F, Donati D, Bacchini P, Martini A, Picci P, Campanacci M

Mod Pathol 17: 6°

1993

64 cases

---

2 Groups

I: conventional OBL 51

II: aggressive OBL 13

Recurrence rate

I: 20.4 %

II: 46.1 %

No metatases were observed

“The diffuse, conspicous and consistent presence of “epithelioid” osteoblasts seems to be a reliable feature of “aggressiveness” in osteoblastoma”

“In few cases the d.d. between aggressive OBL and low–grade osteosarcoma (osteoblastoma–like) is a problem”.

Unni, KK

SLIDE SEMINAR
SESSION NO. 027
BONE PATHOLOGY

XX International Congress of the IAP
Hong Kong

OCT. 9 – 14, 1994.

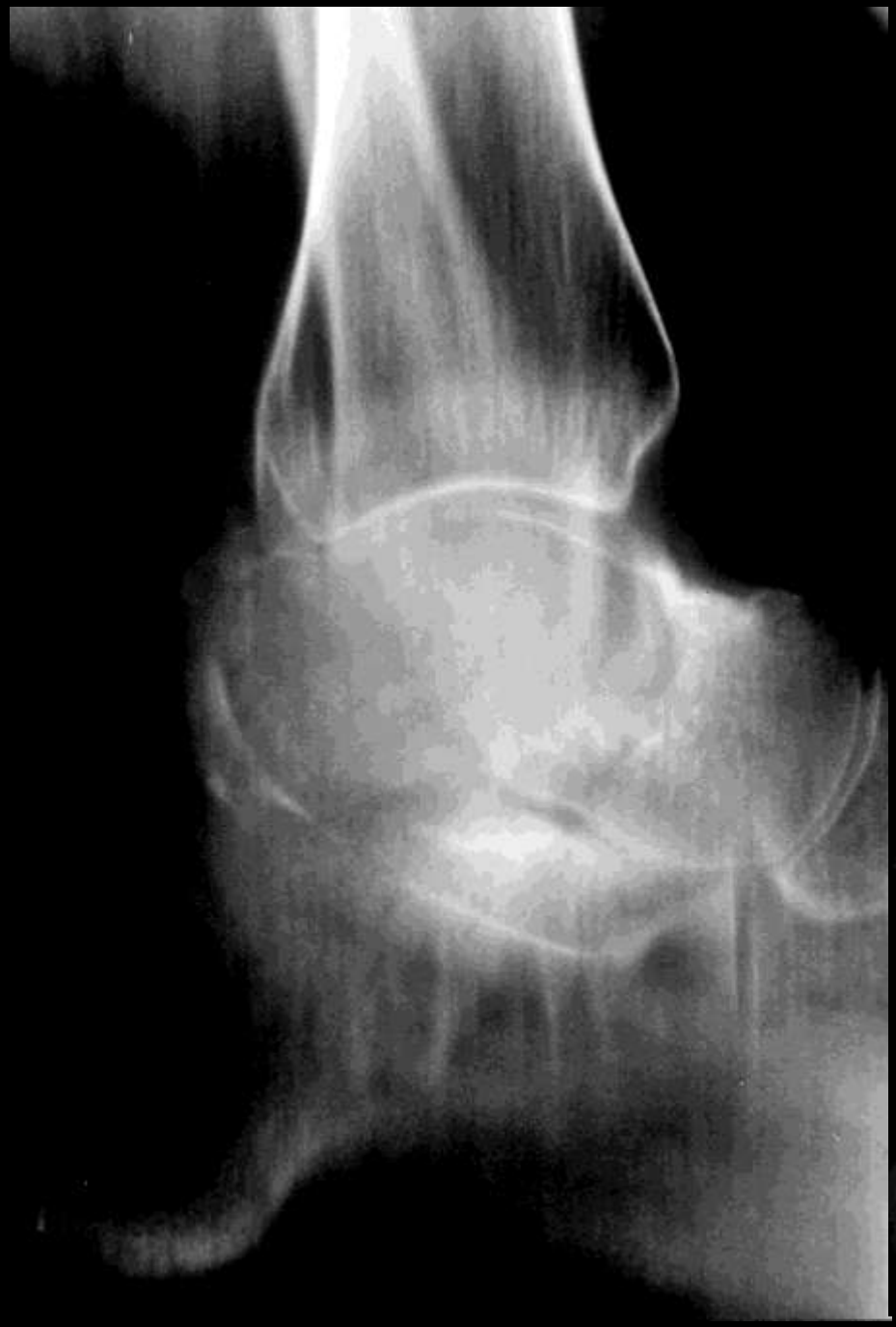
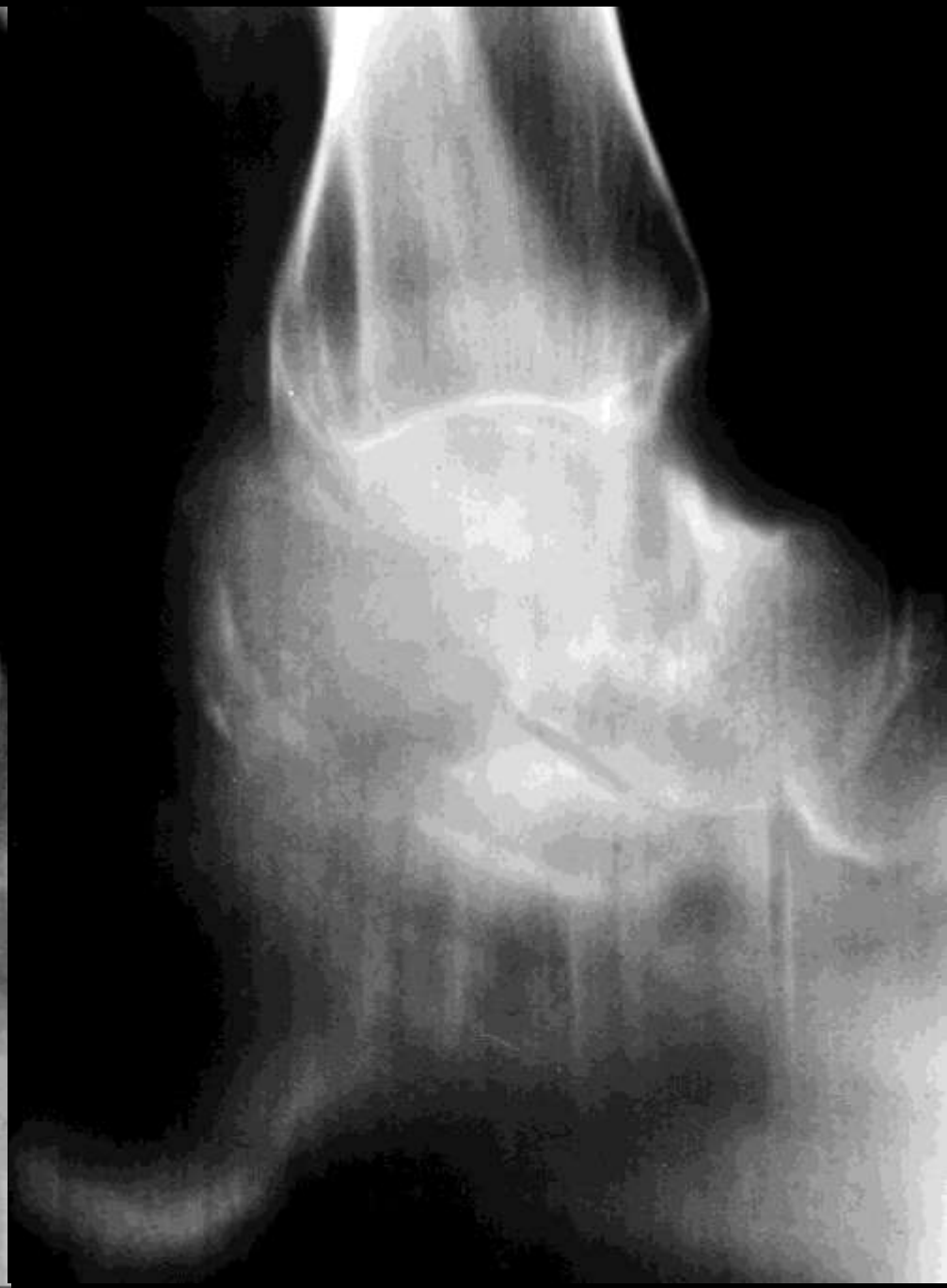
"However, I am not convinced that a distinct group of aggressive osteoblastomas can be separated on a histological basis.

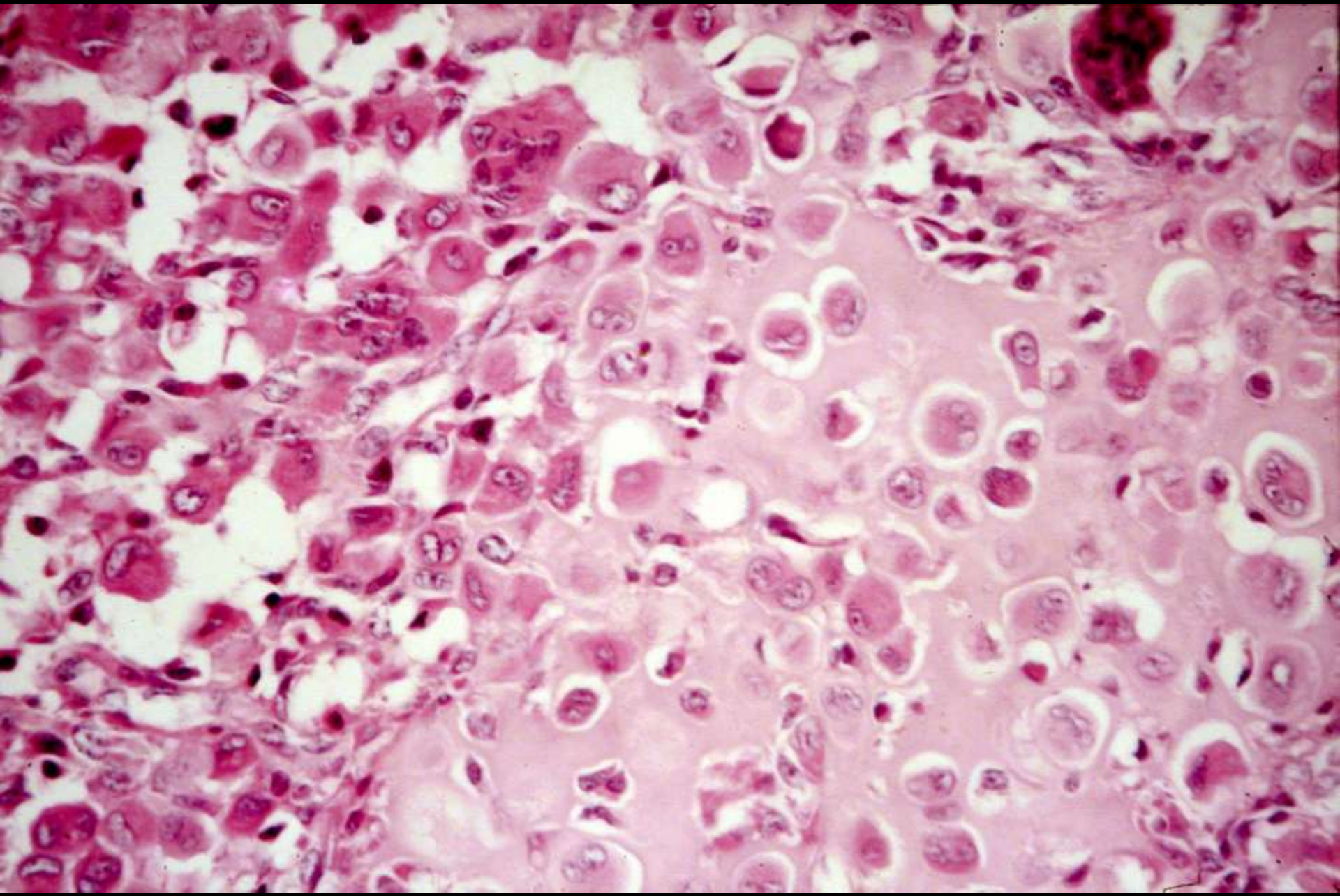
I believe that some osteoblastomas do tend to behave aggressively locally.

This partly relates to the fact that many of these are in locations where surgical removal is necessarily incomplete".

1989

- **Mujer de 19 años.**
- **Masa dolorosa en tobillo derecho.**

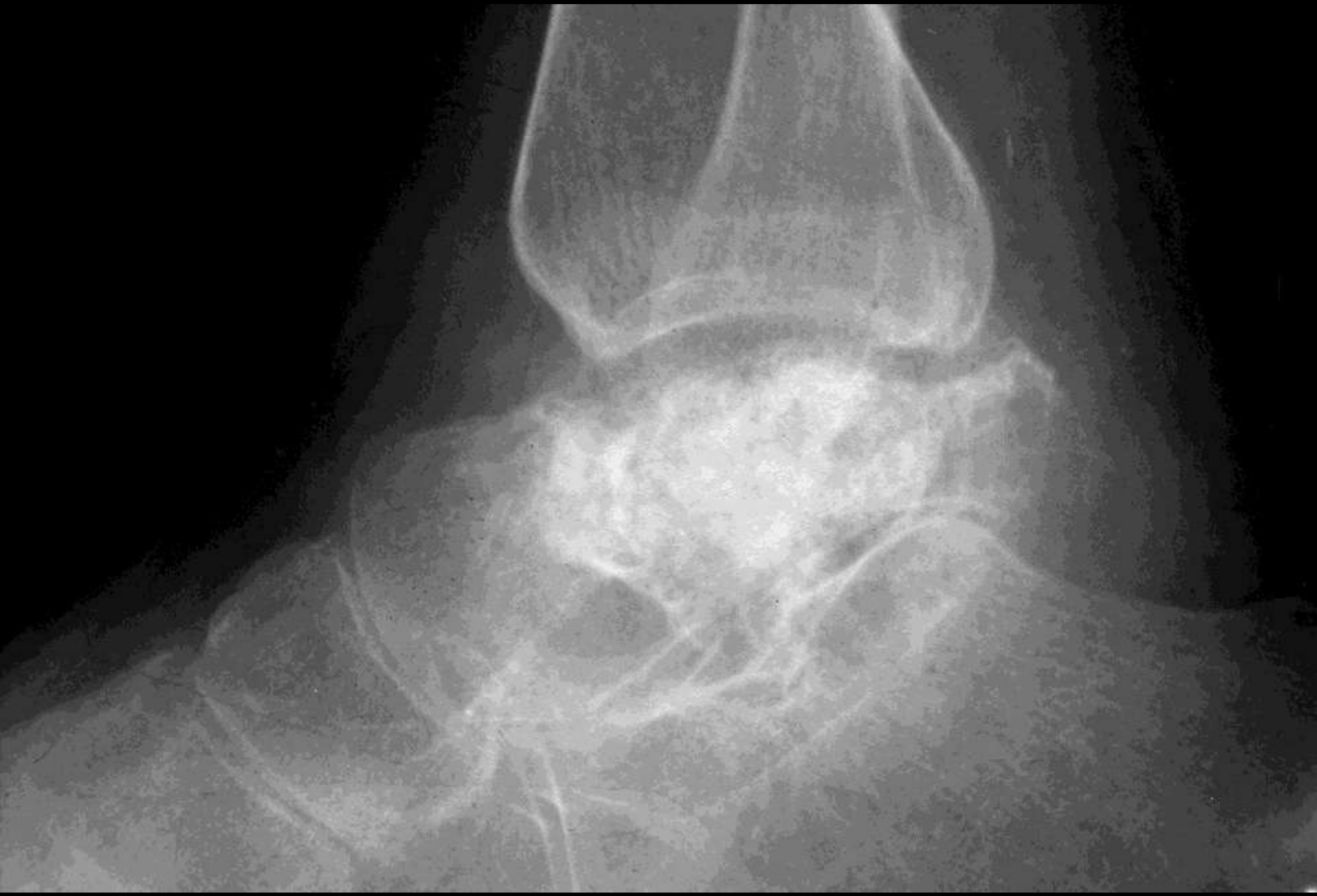





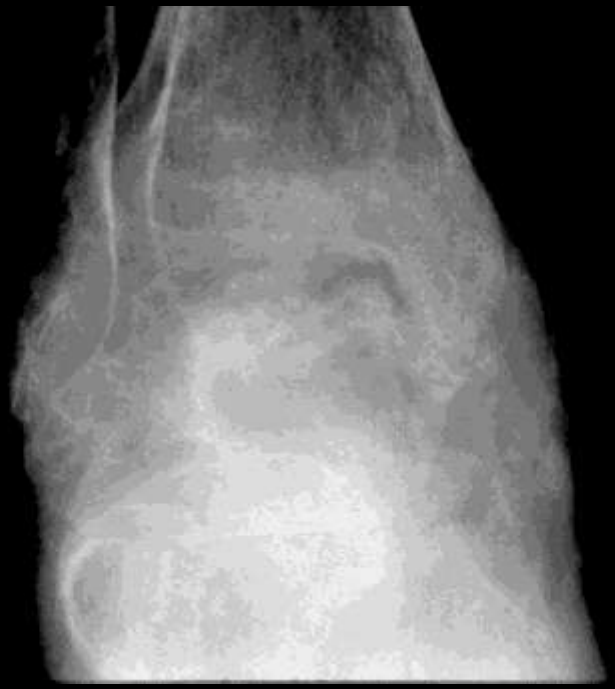
1989. Punción biopsia.

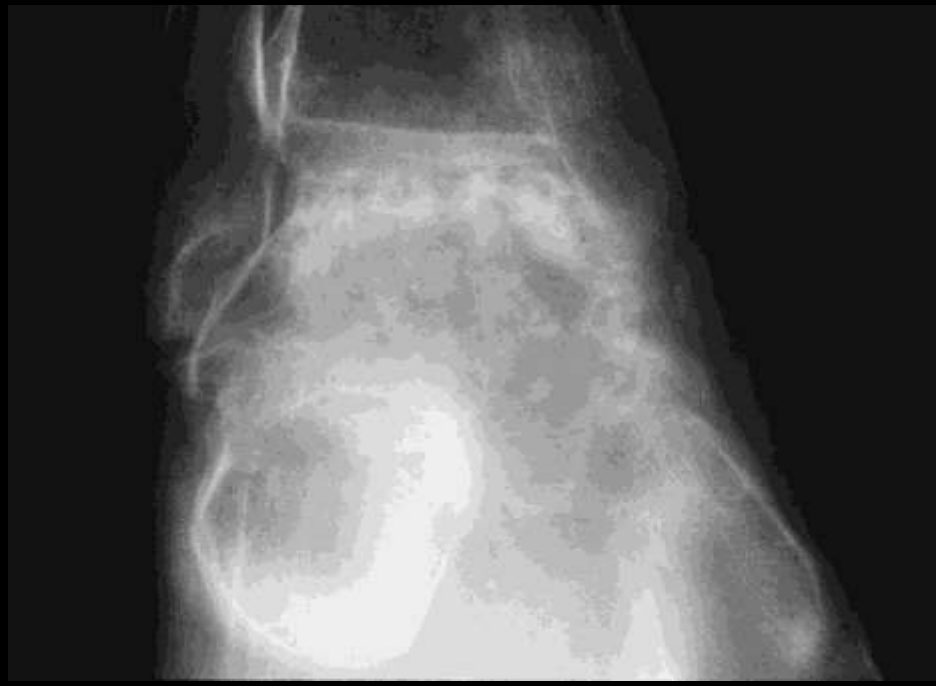
Diagnóstico: Condroblastoma.

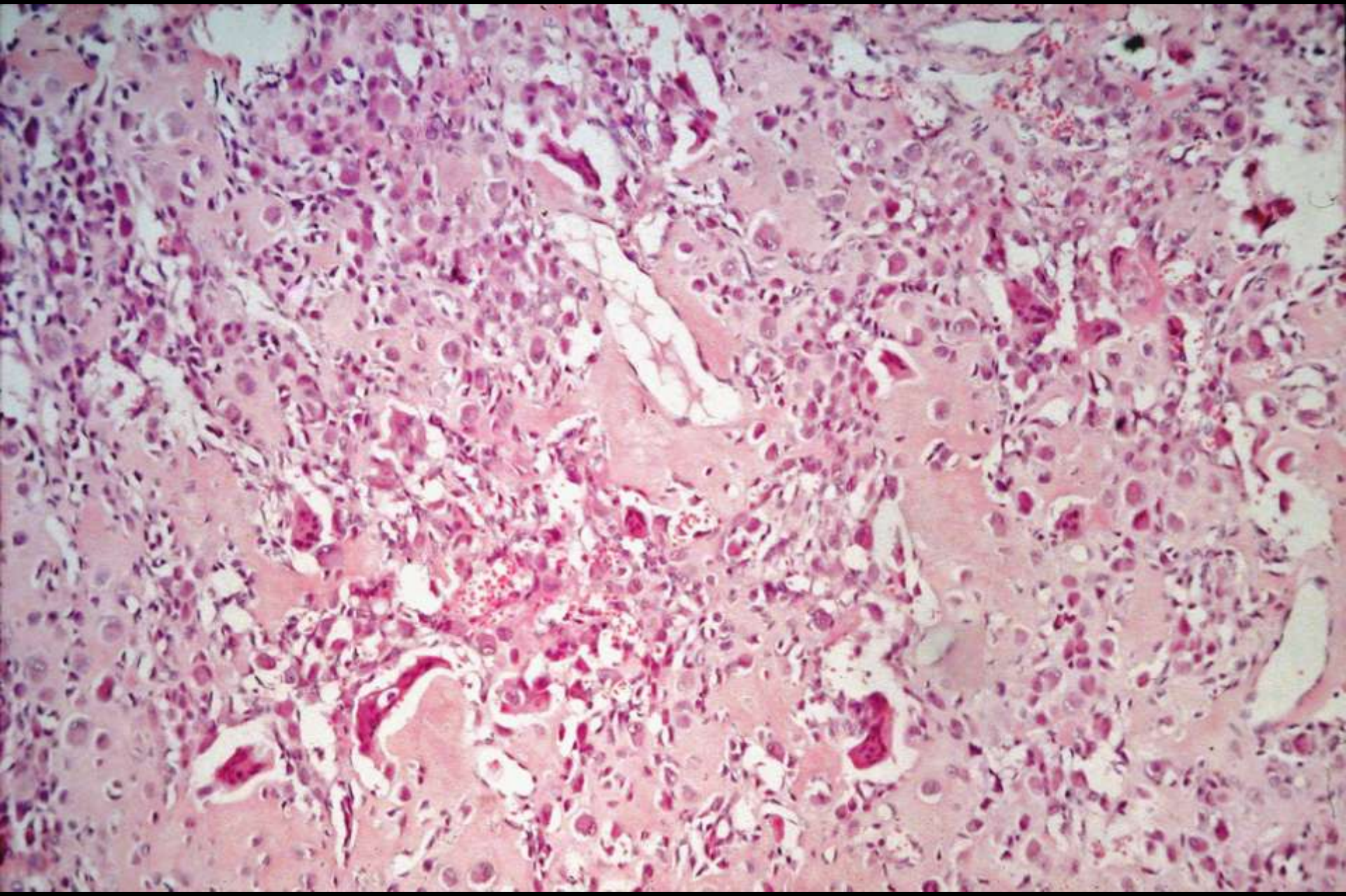
Tratamiento: Curetaje / “bone chips”.

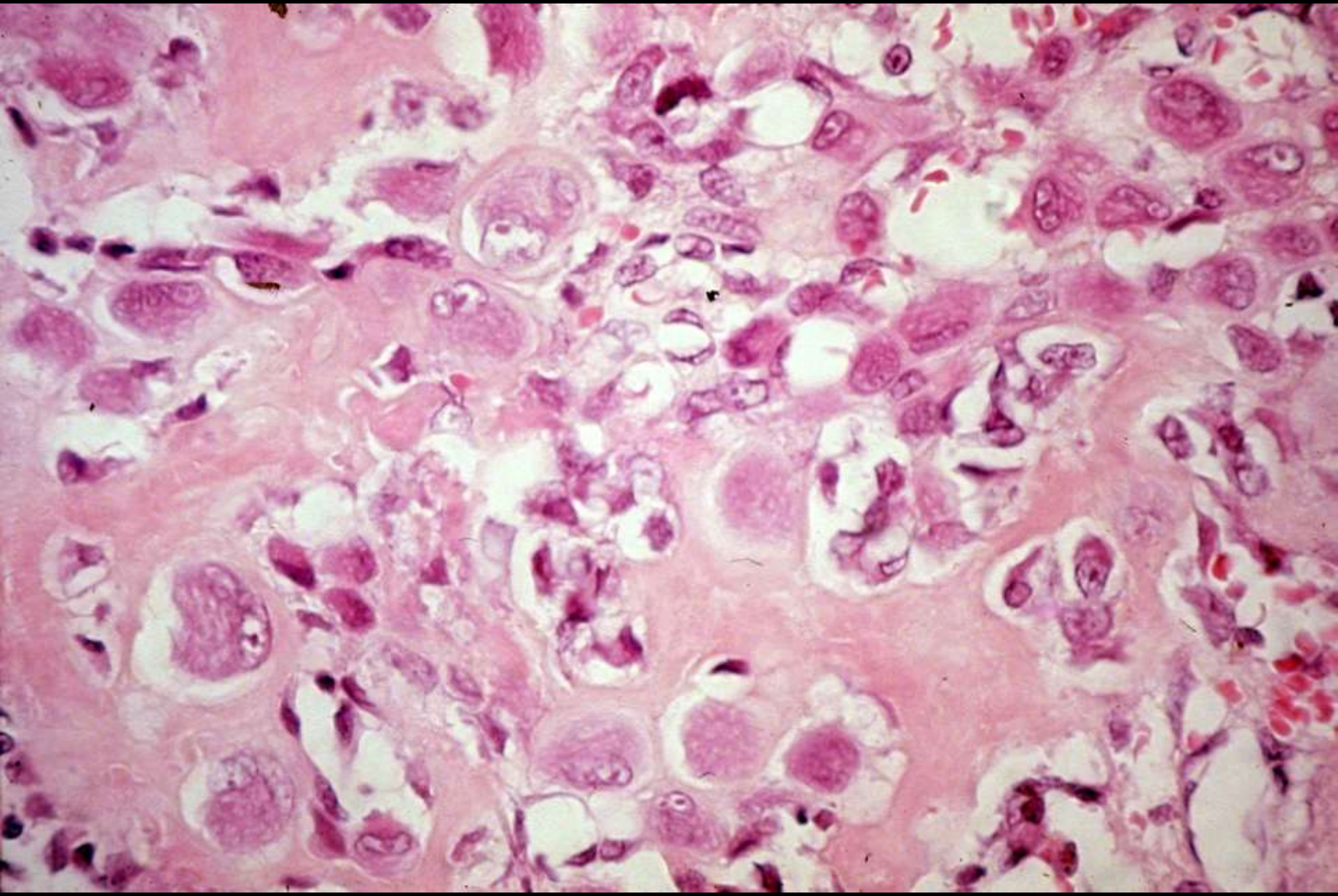


1991. recidiva.







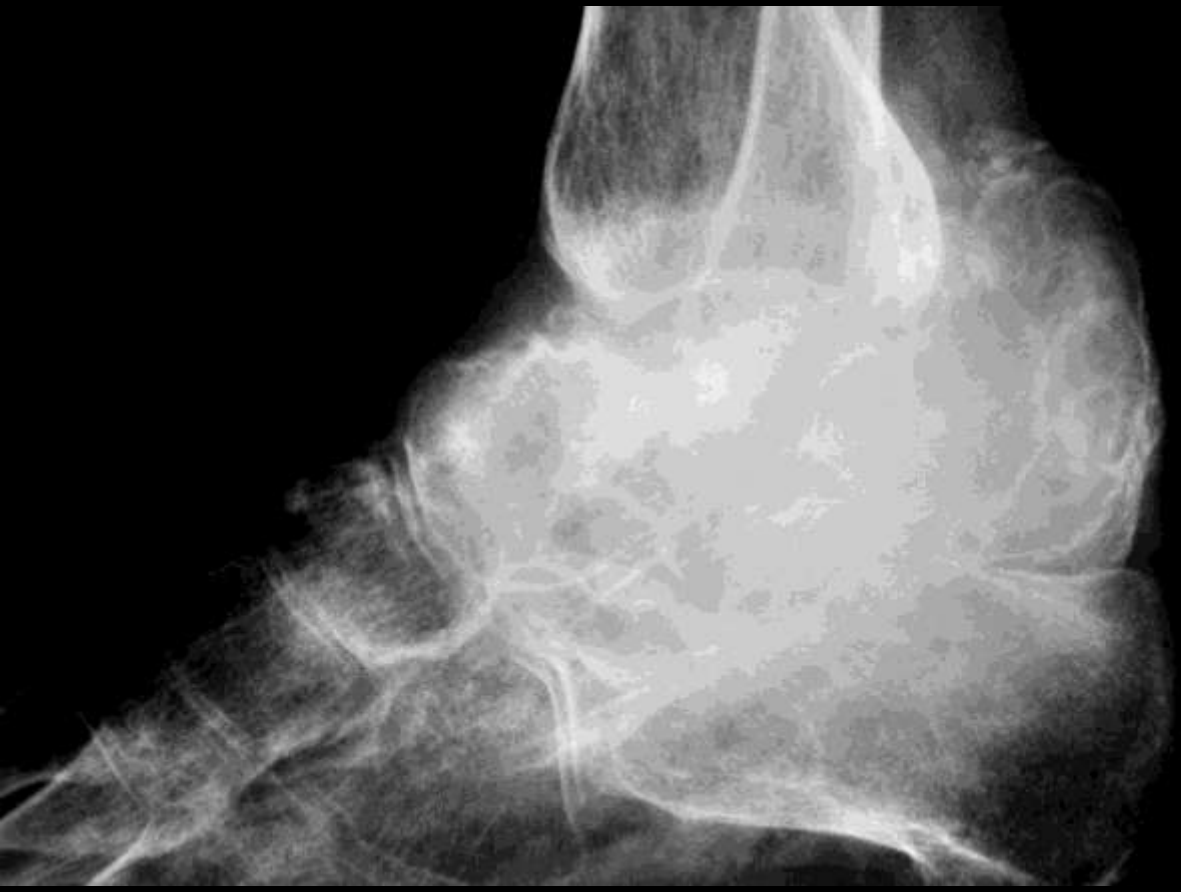


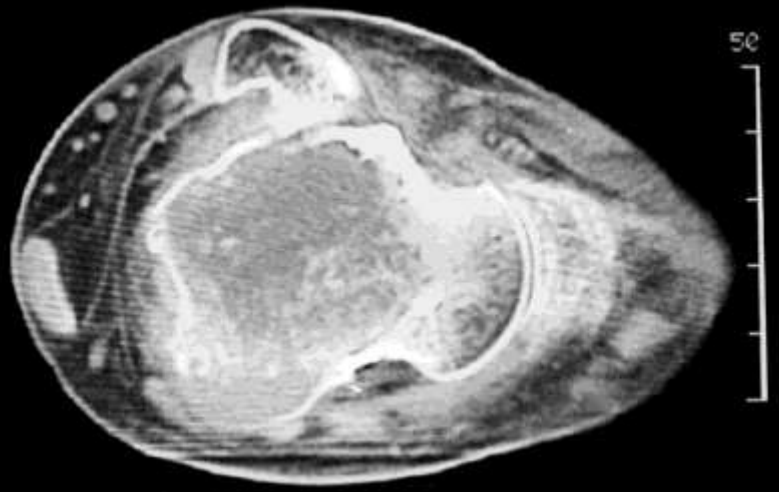
Diagnostico:

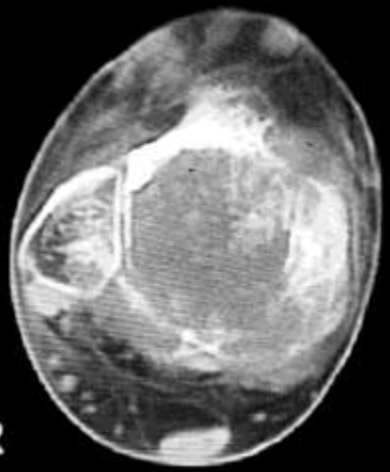
Osteoblastoma Agresivo

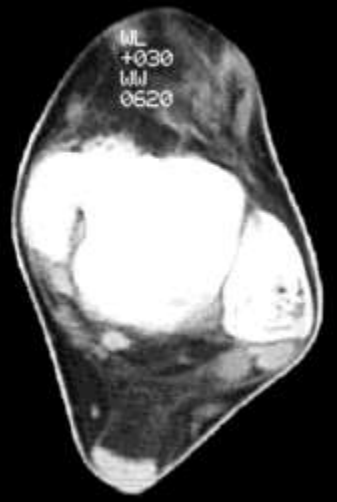
1992. recidiva.

Biopsia quirúrgica.

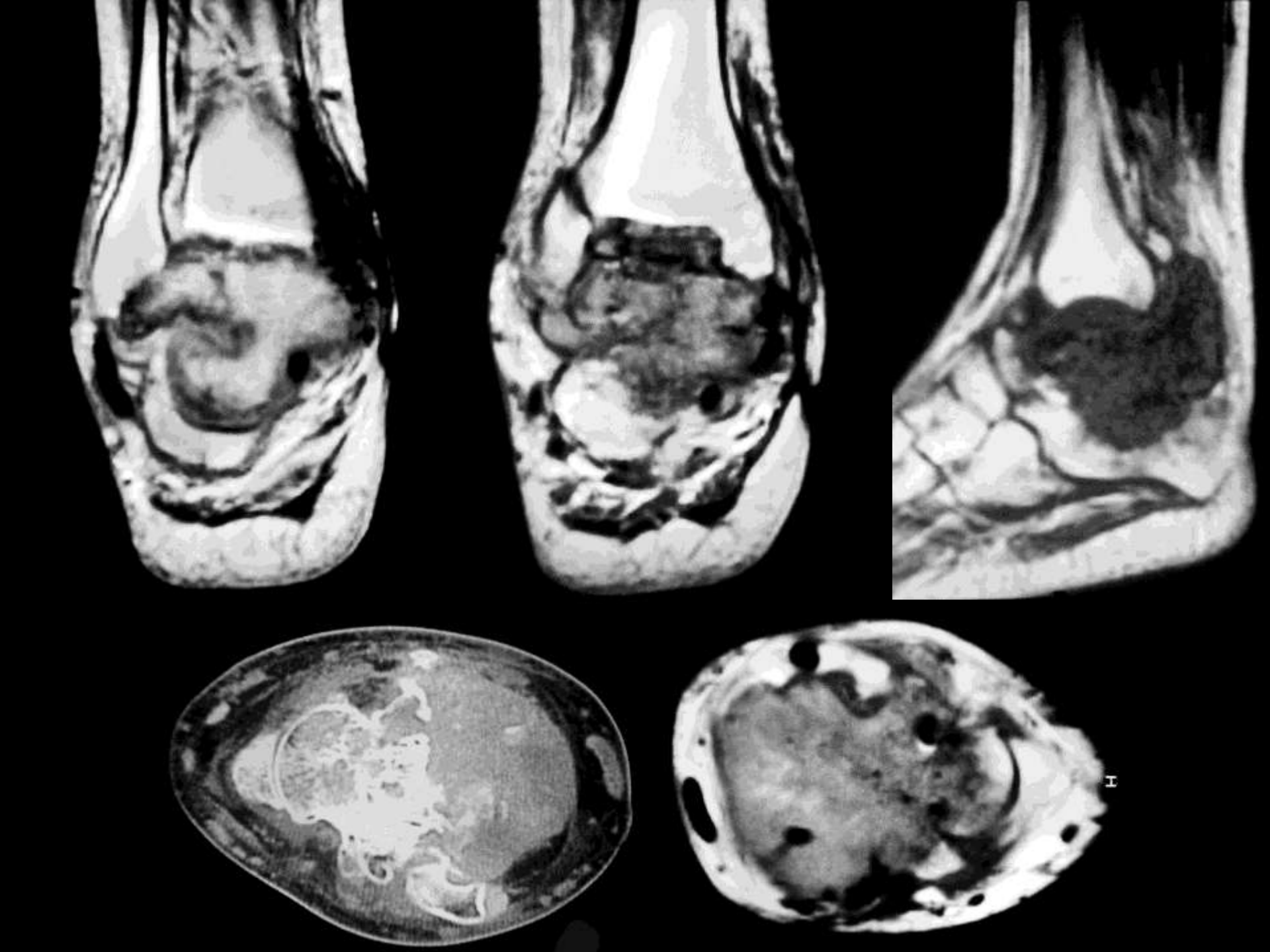


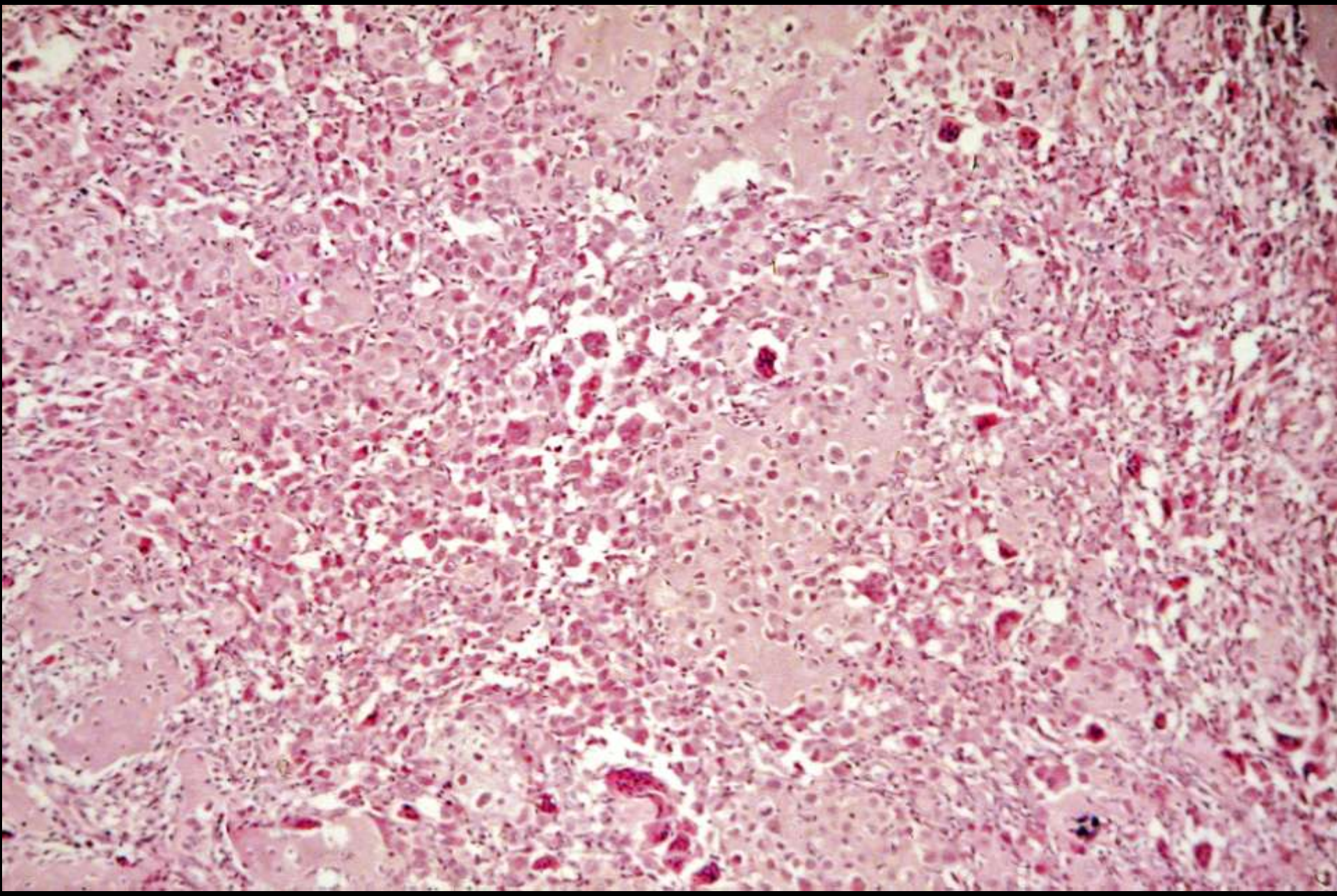


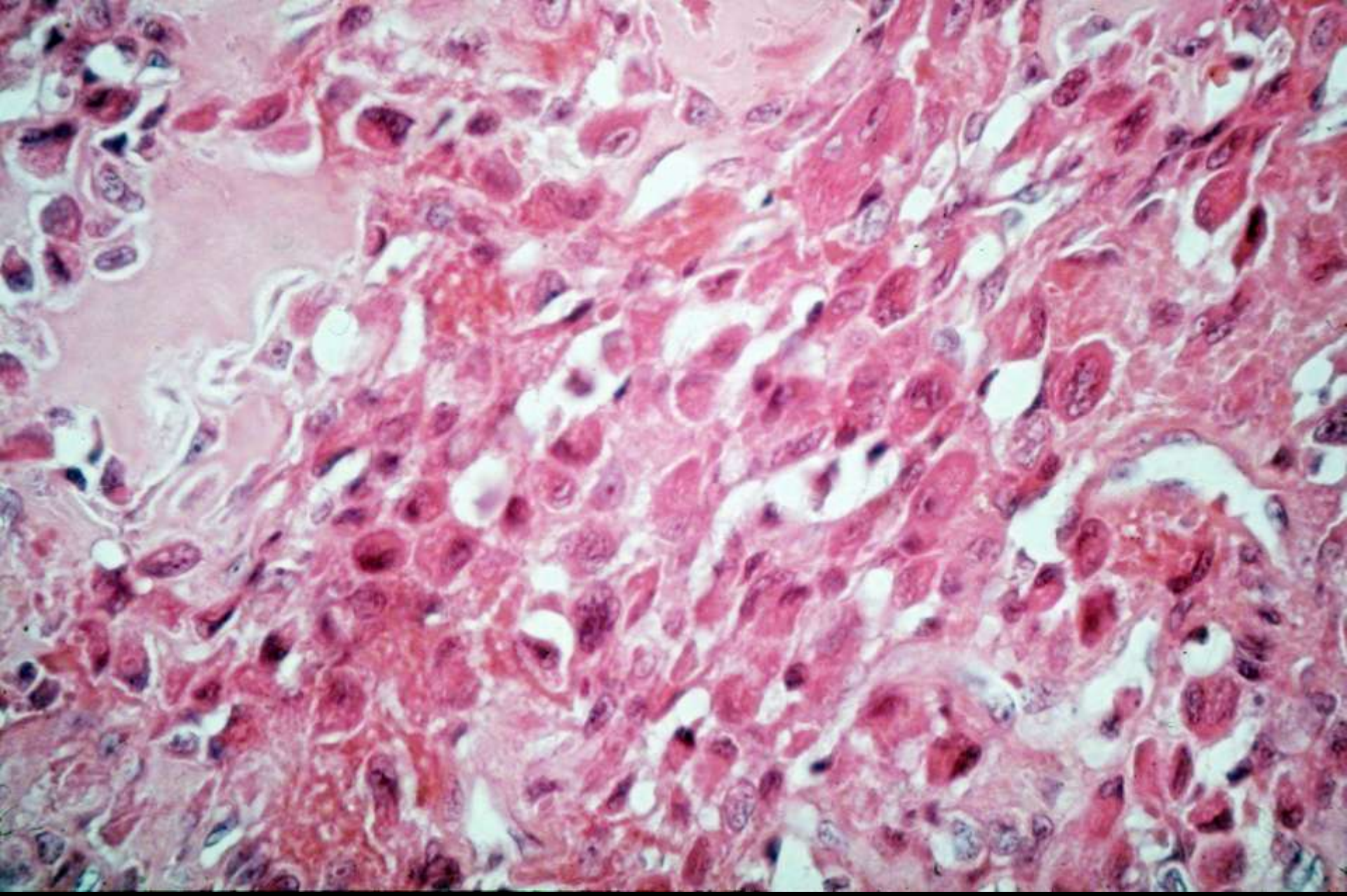


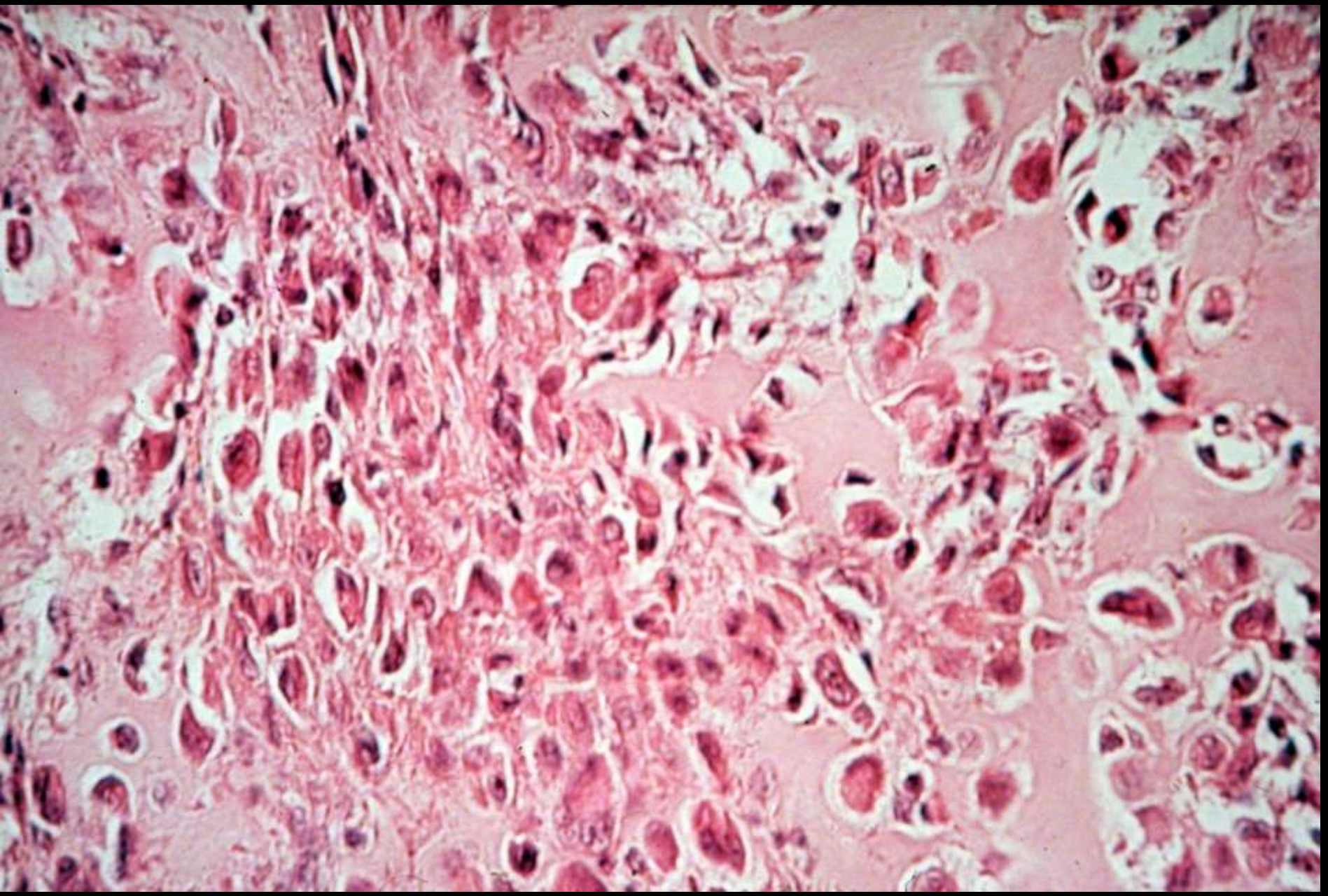


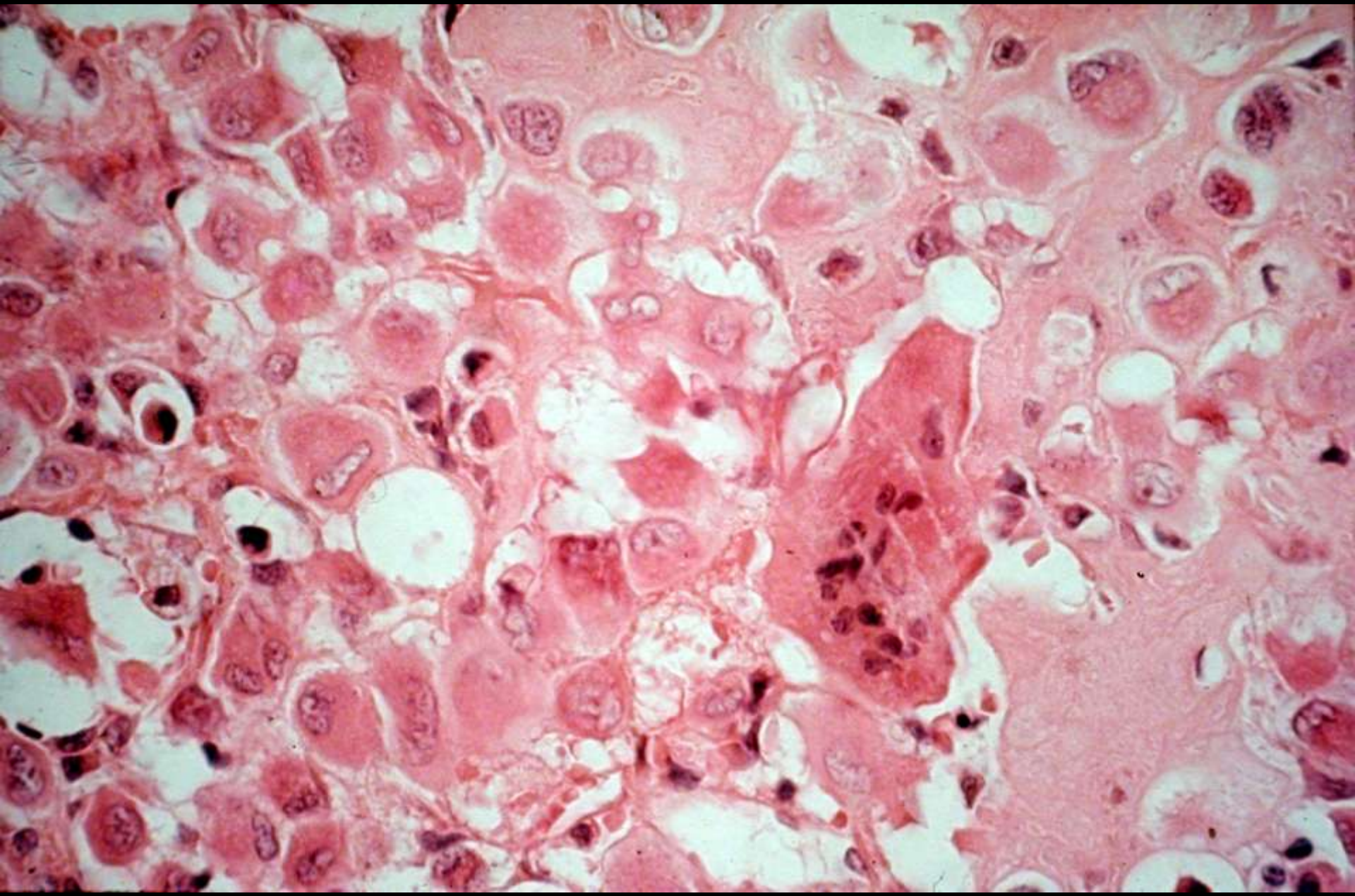
R











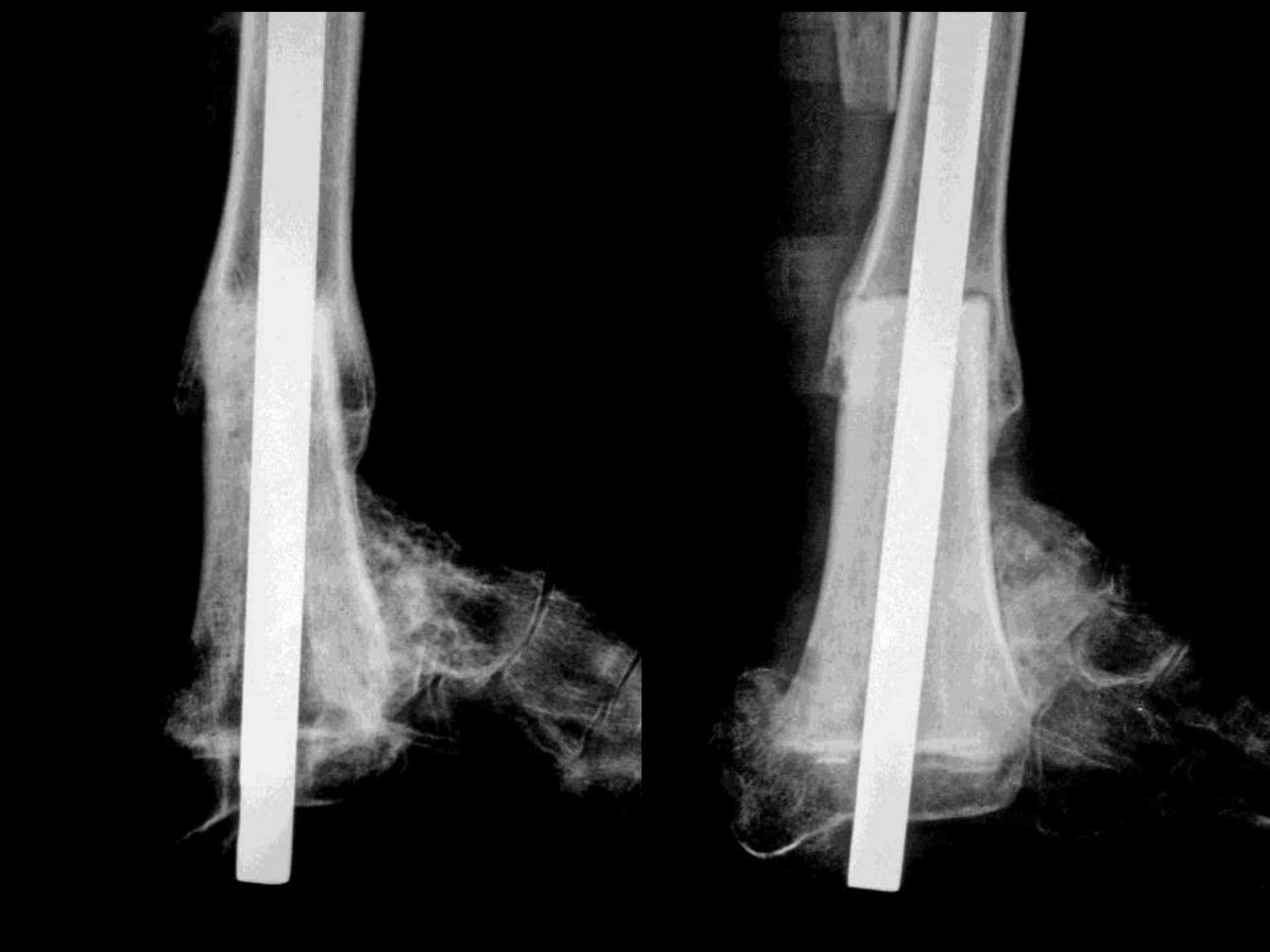
Diagnóstico:

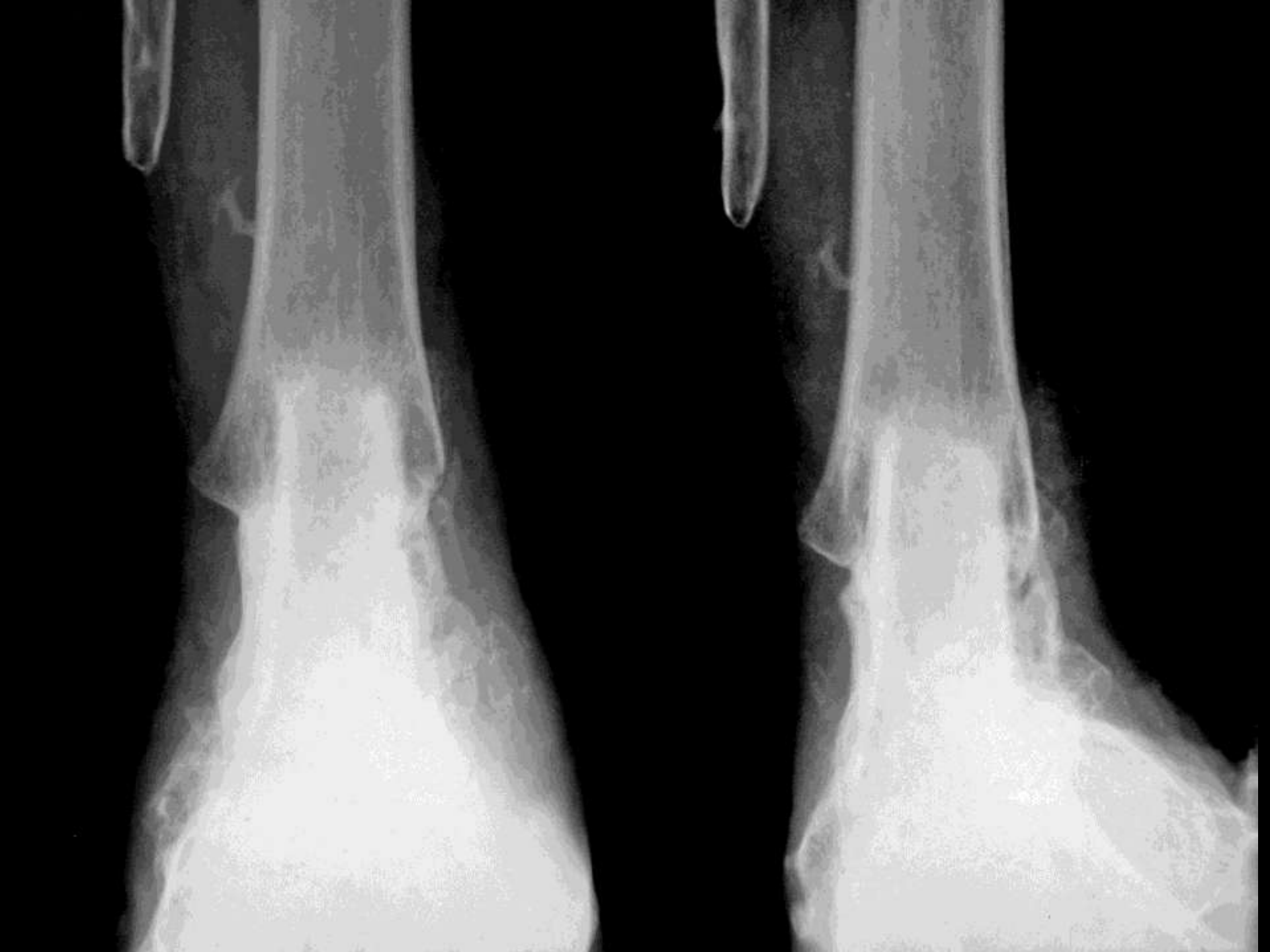
Osteosarcoma - Tipo Osteoblastoma

Quimioterapia.

Resección ósea.

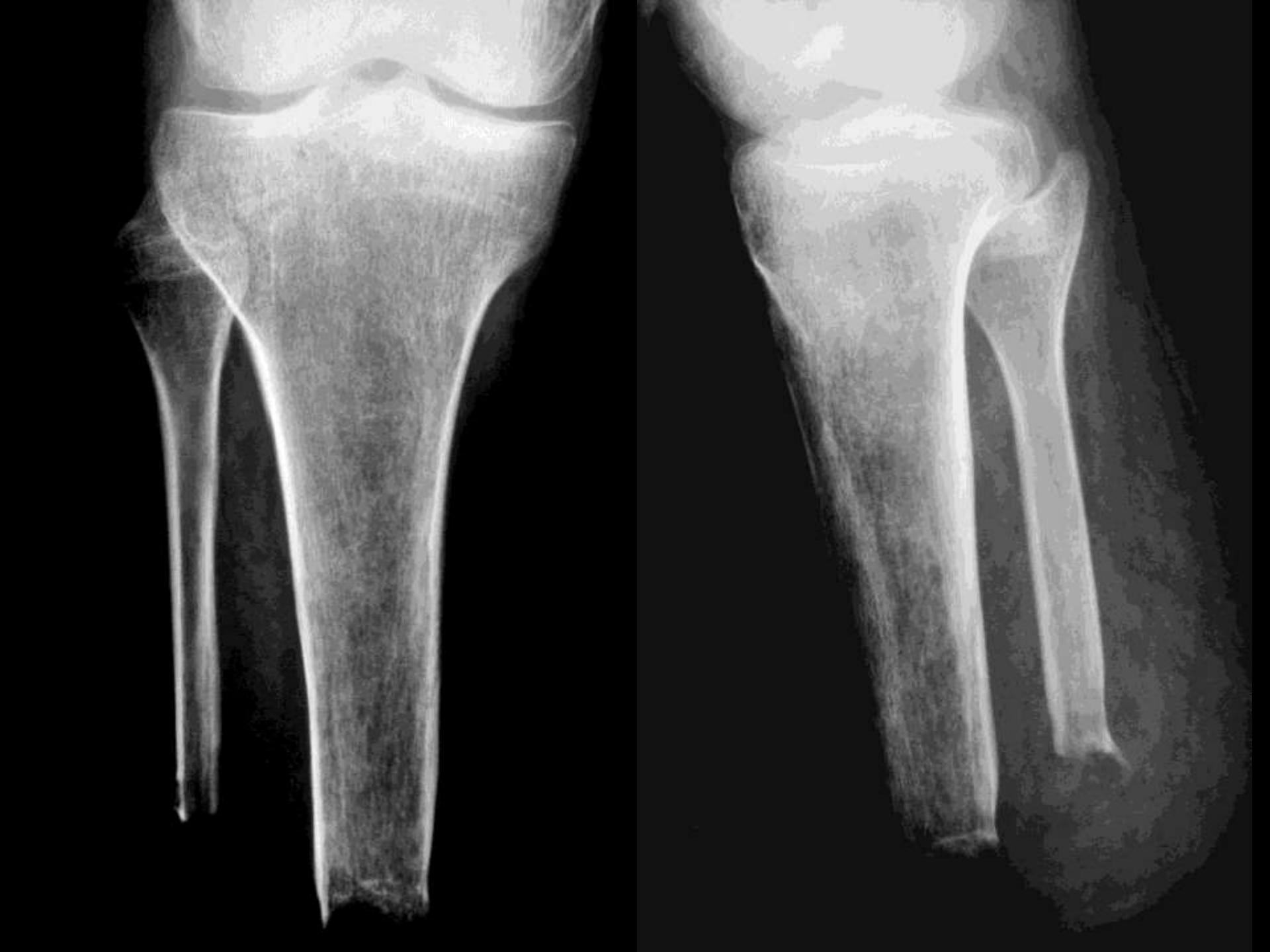
Injerto Oseo.





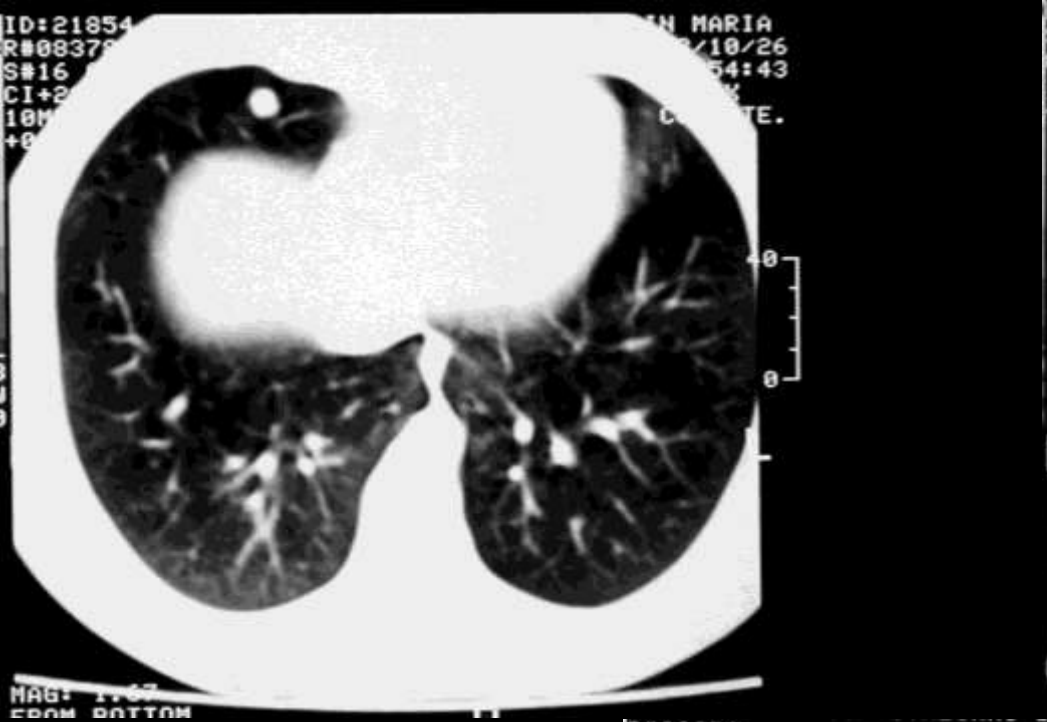
1993. Recidiva.

Amputación



1994. Metástasis pulmonares.

Resecadas por toracotomía.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54:43
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40
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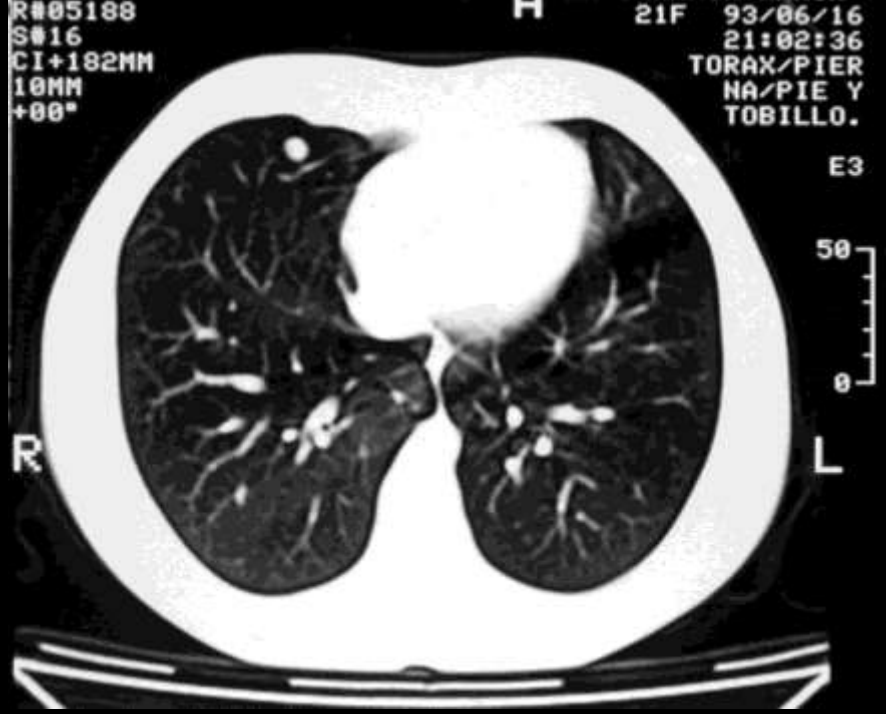
MAG: 1.67
FROM BOTTOM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10MM
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H
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21:02:36
TORAX/PIER
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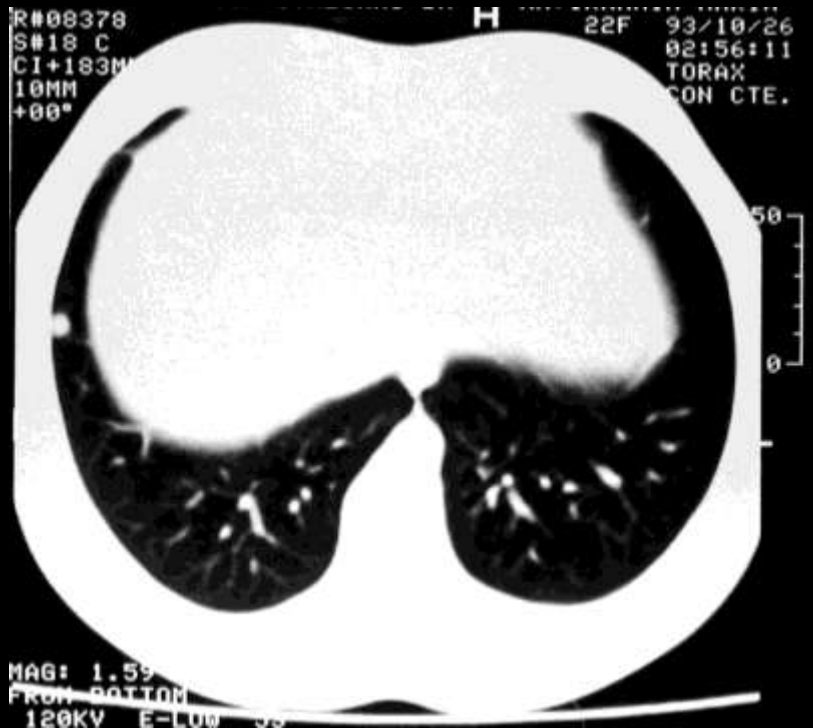
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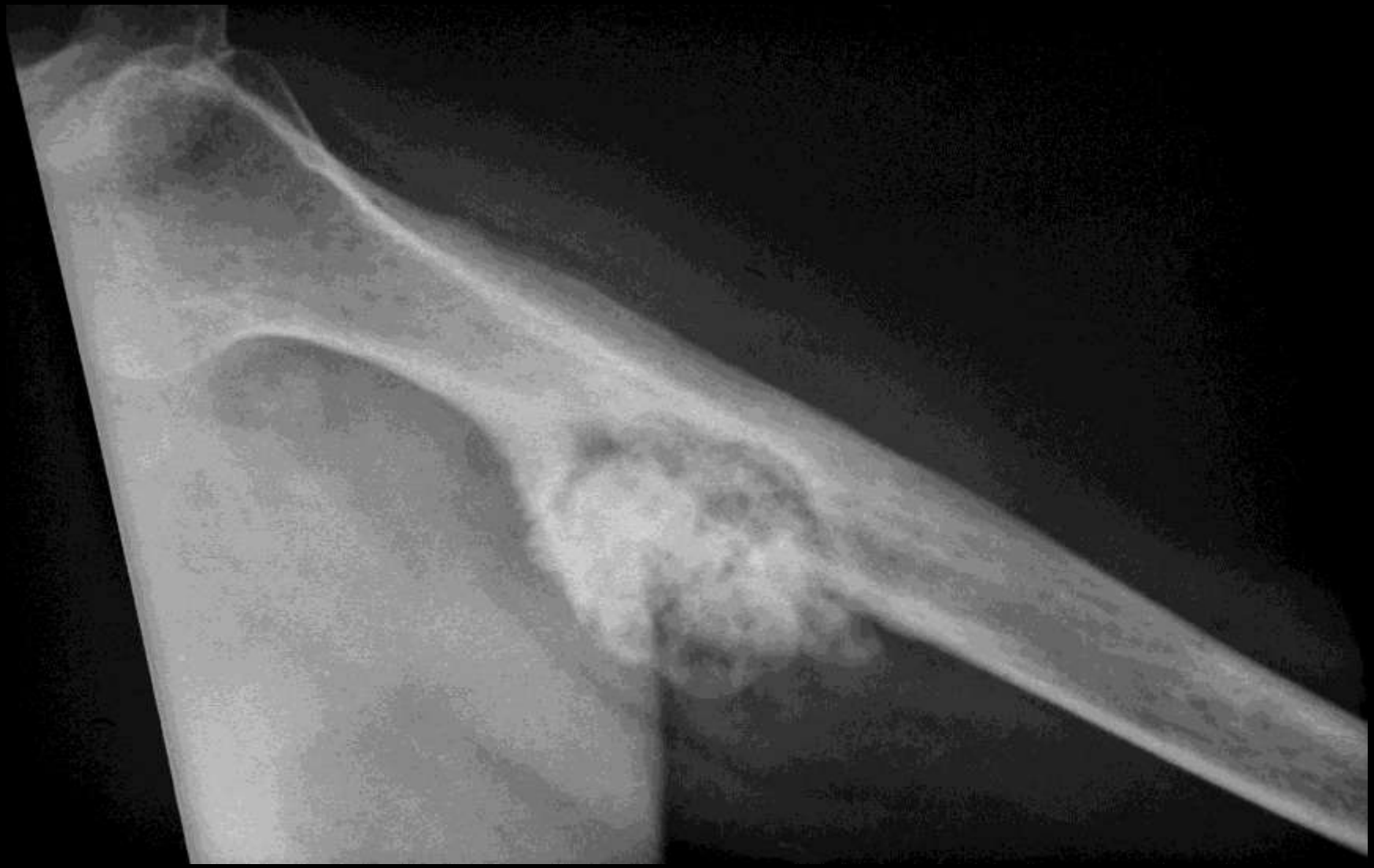
S#18 C
CI+183MM
10MM
+00°
H
22F 93/10/26
02:56:11
TORAX
CON CTE.
50
0
MAG: 1.59
FROM BOTTOM
120KV E-LOW

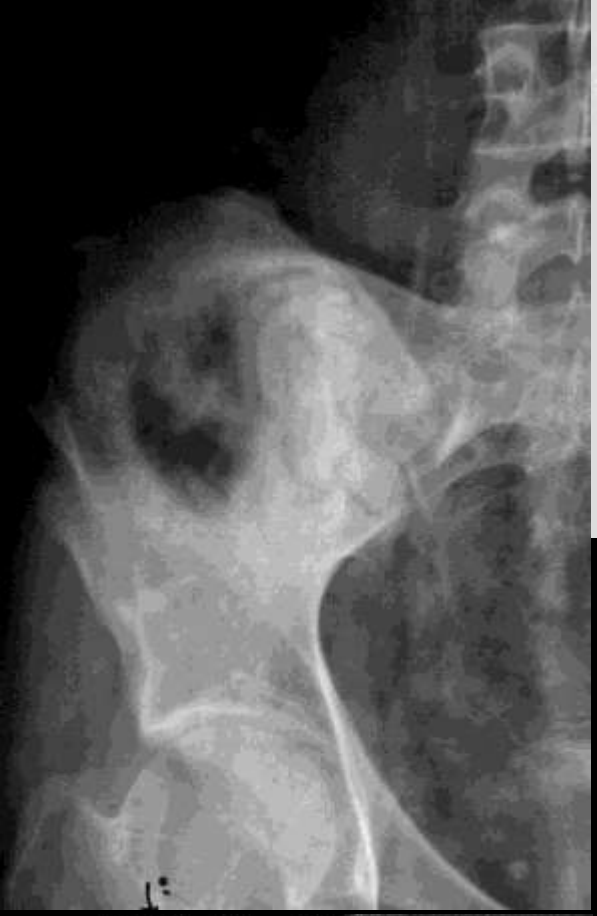
2009. Seguimiento.

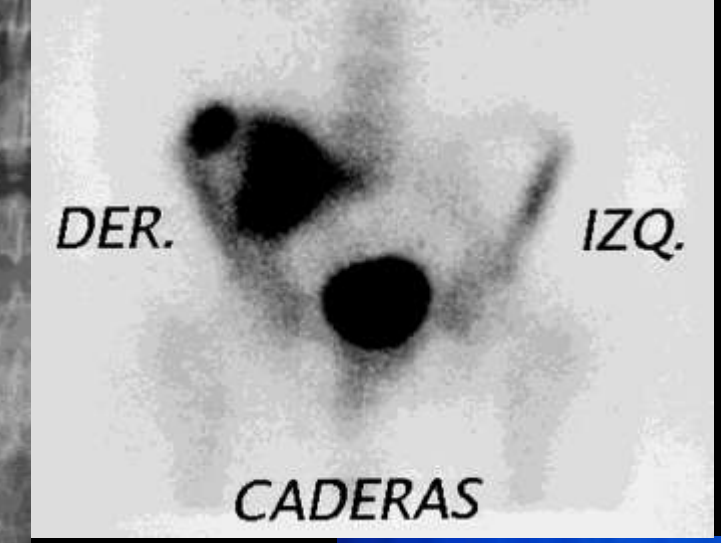
Libre de Enfermedad.

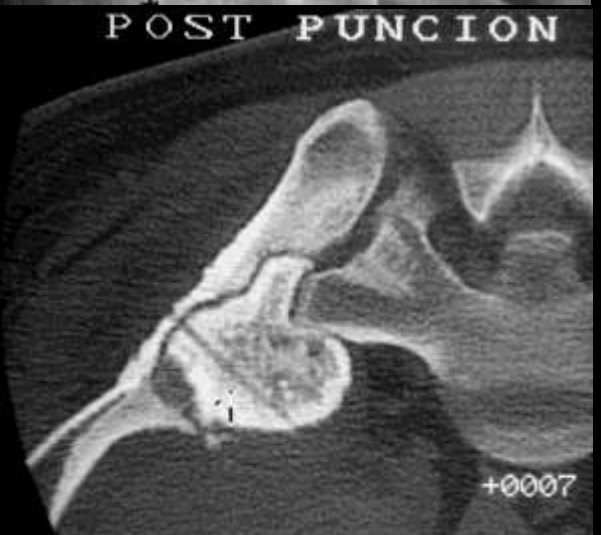
OSTEOSARCOMA

OSTEOBLASTOMA – LIKE






DER.
IZQ.
CADERAS


POST PUNCION
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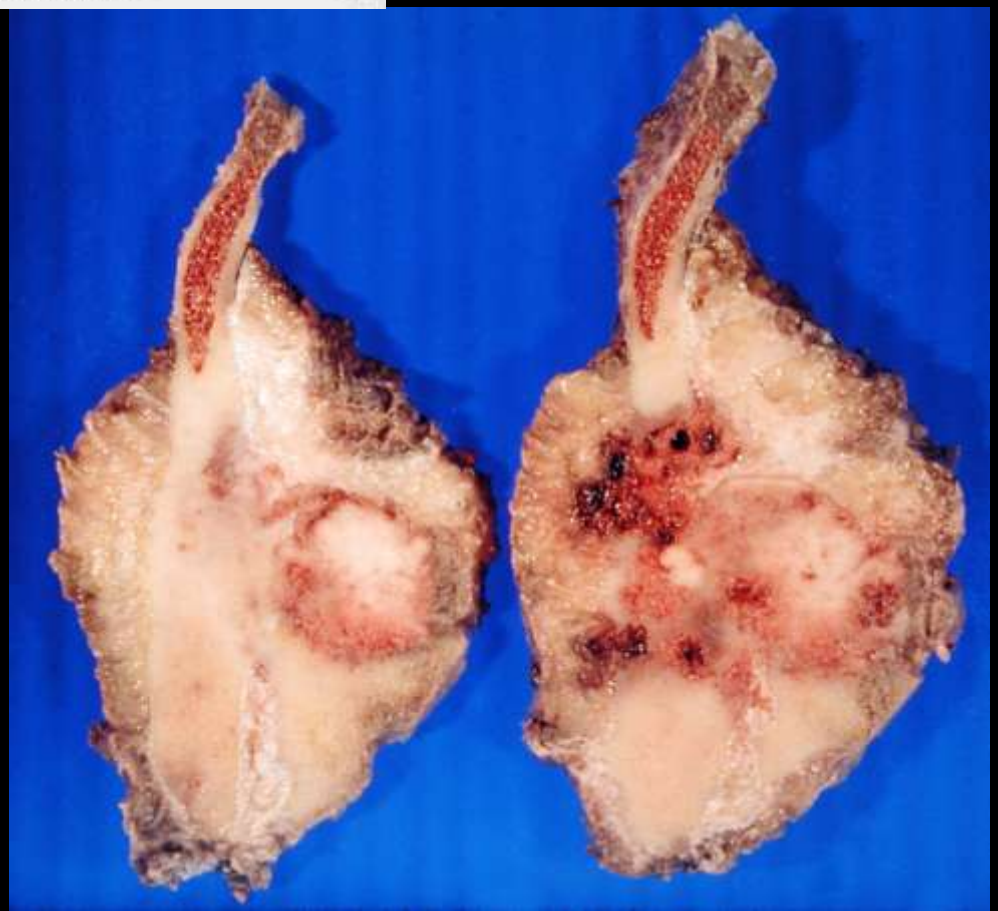
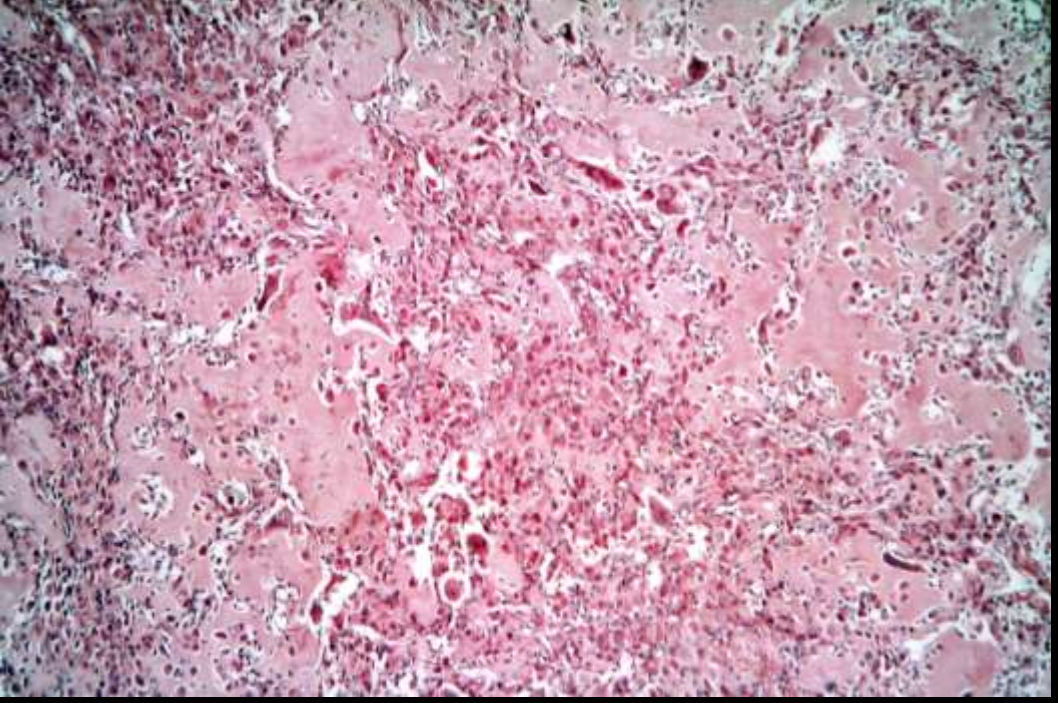
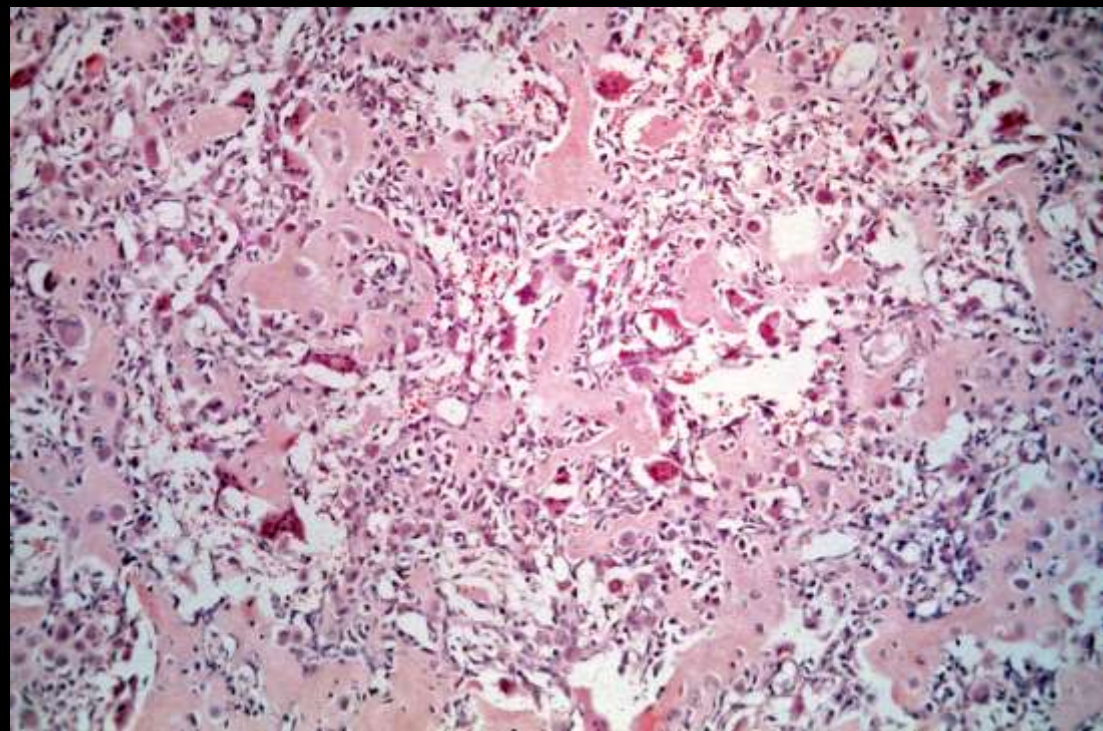
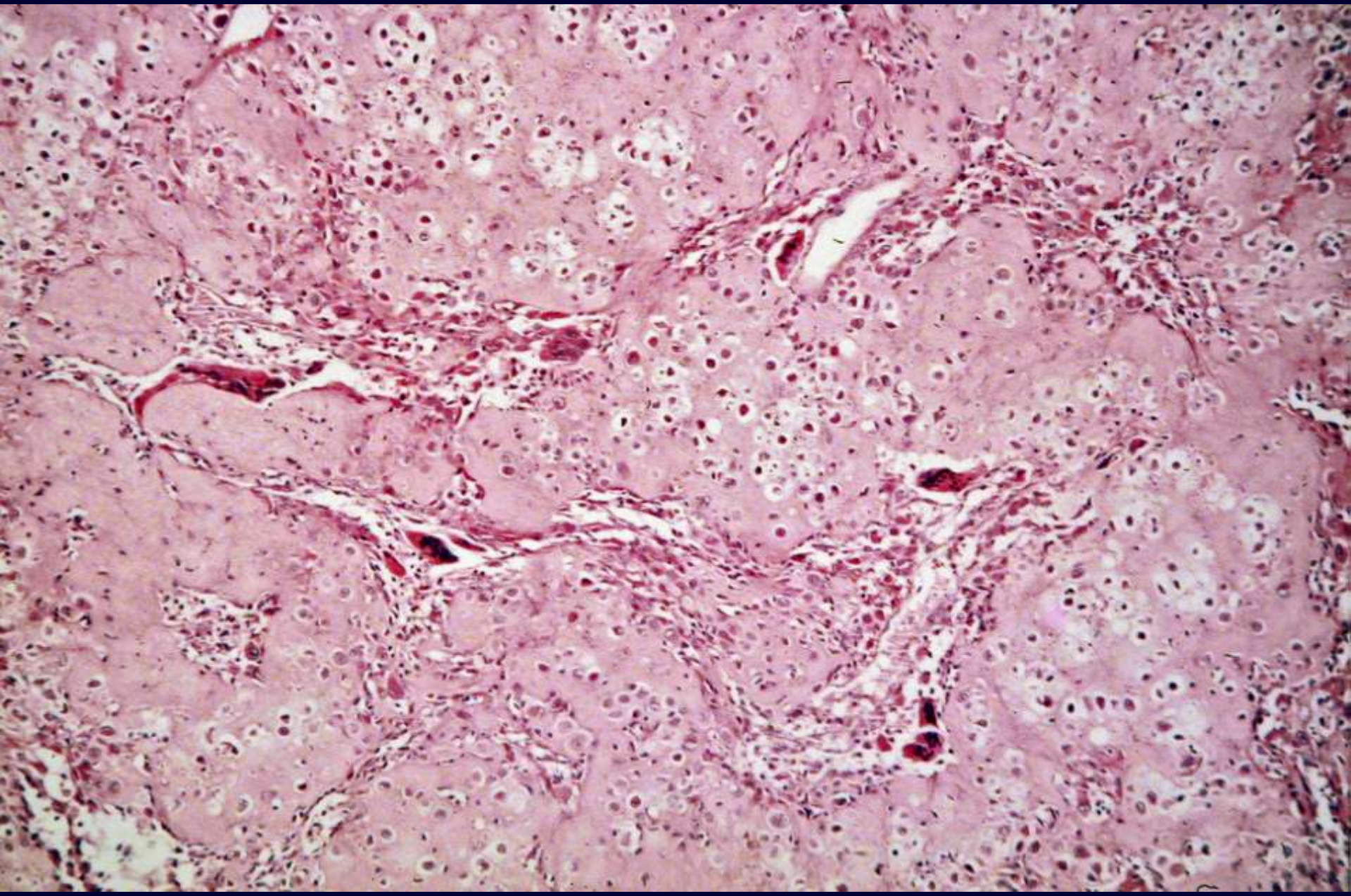
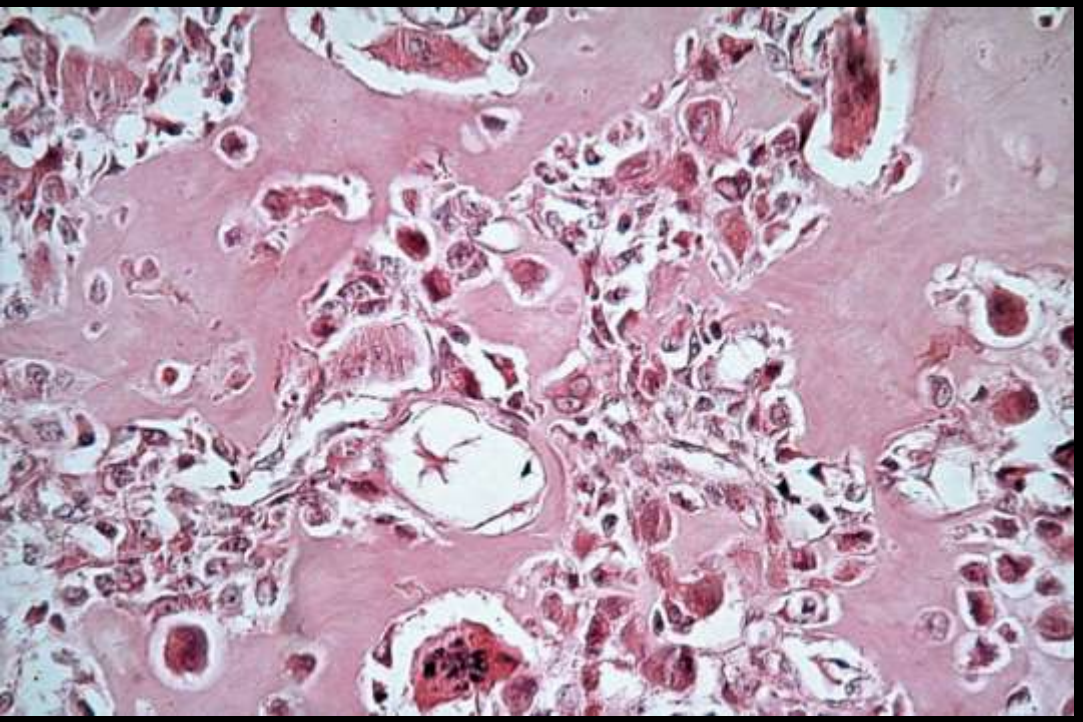
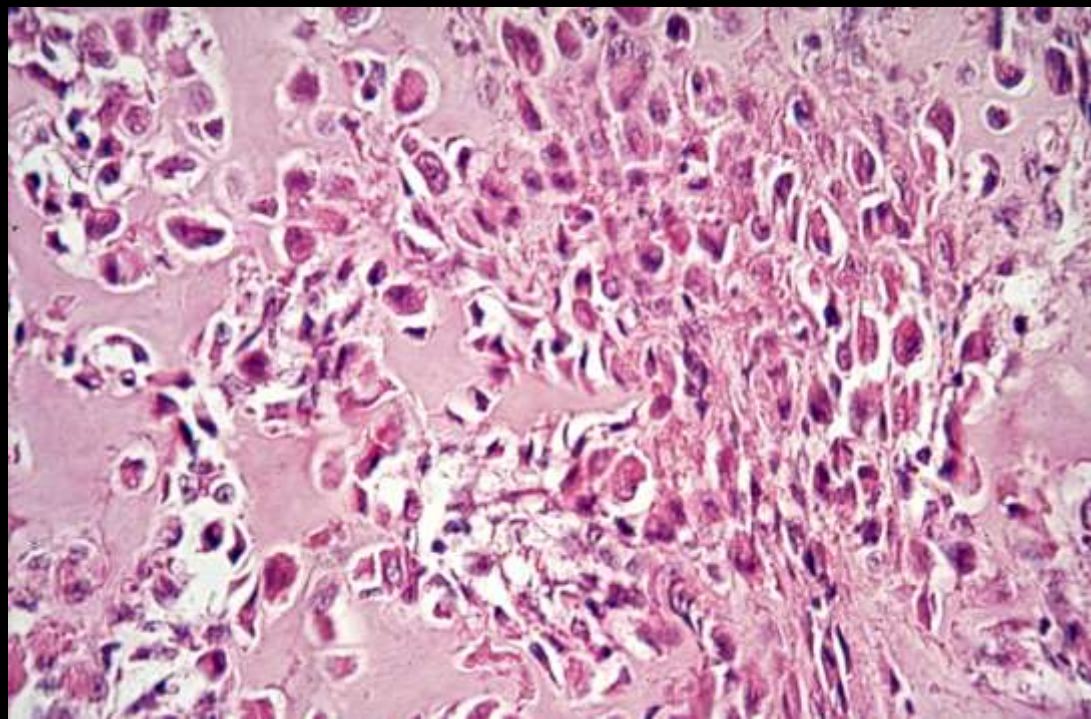


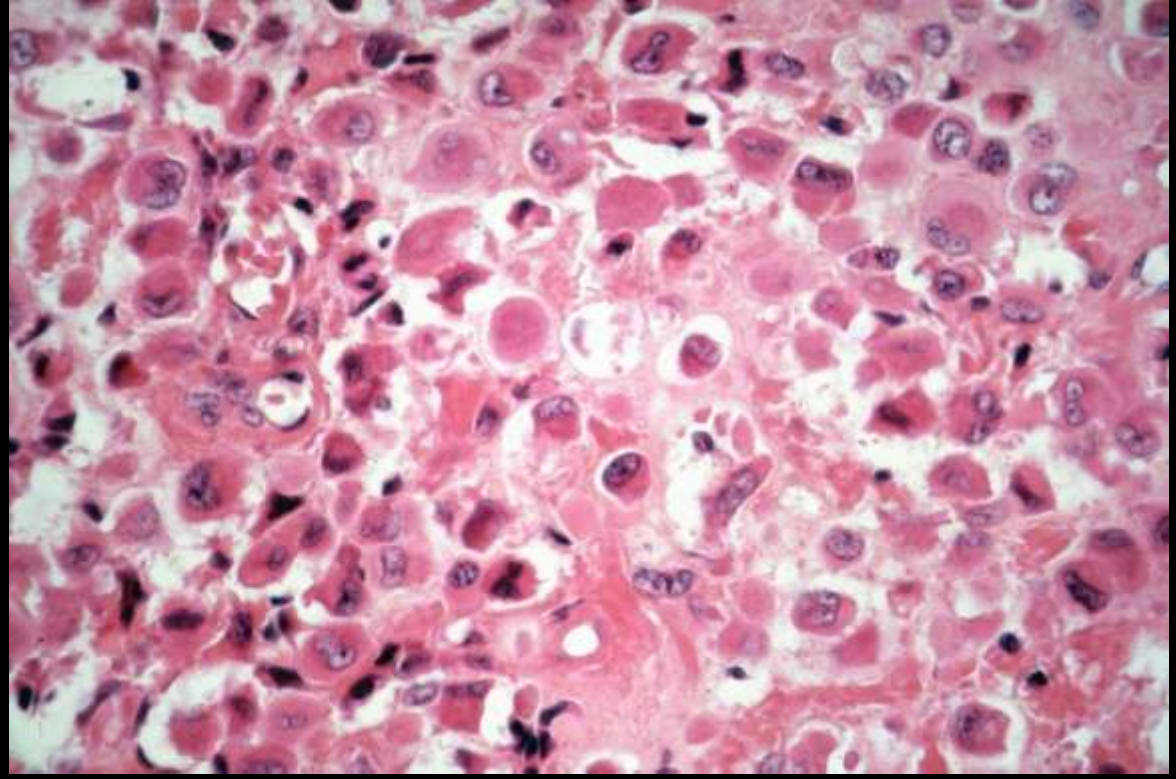


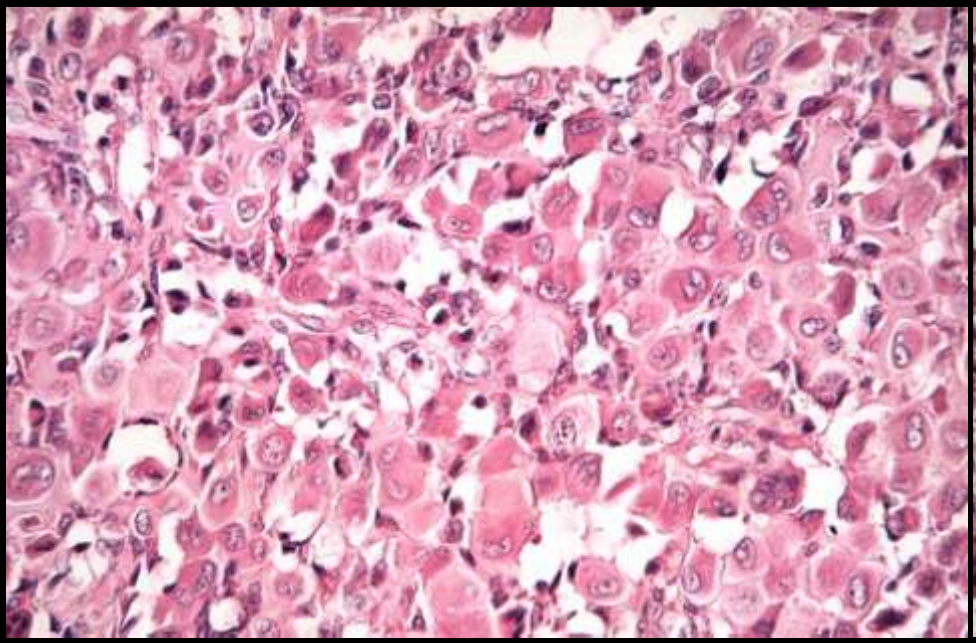


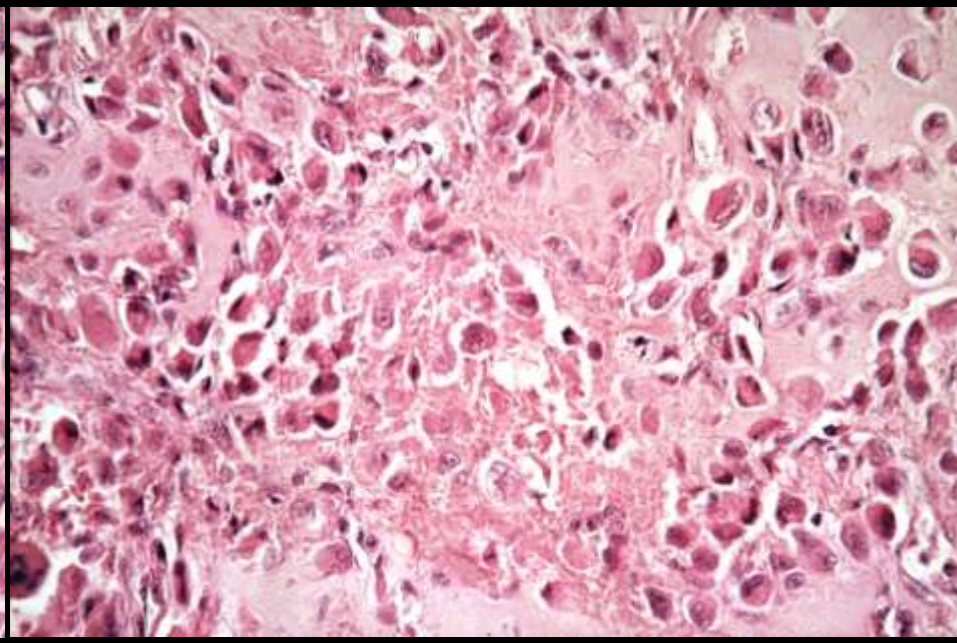












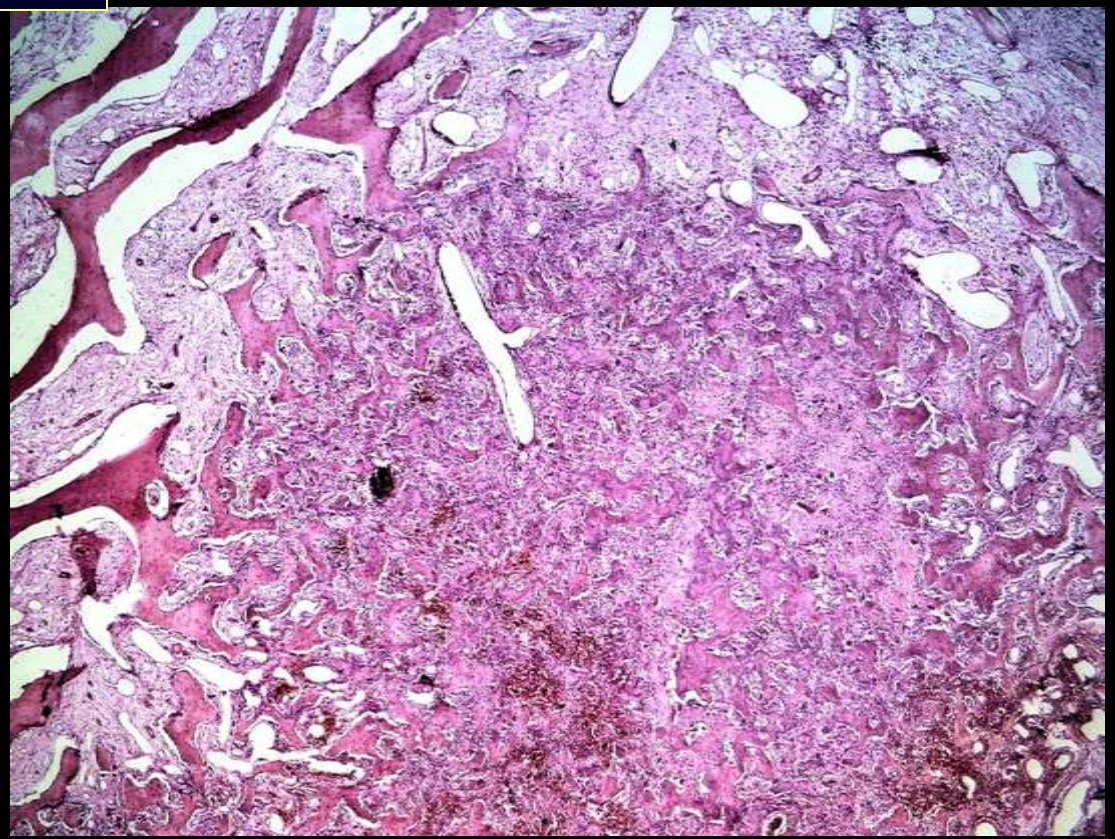
OSTEOBLASTOMA

Precisa circumscripción.

Falta de permeación del hueso periférico.

Presencia de tejido conectivo fibrovascular entre las trabéculas óseas con una disposición laxa.

Una sola capa de osteoblastos sobre las trabéculas óseas.



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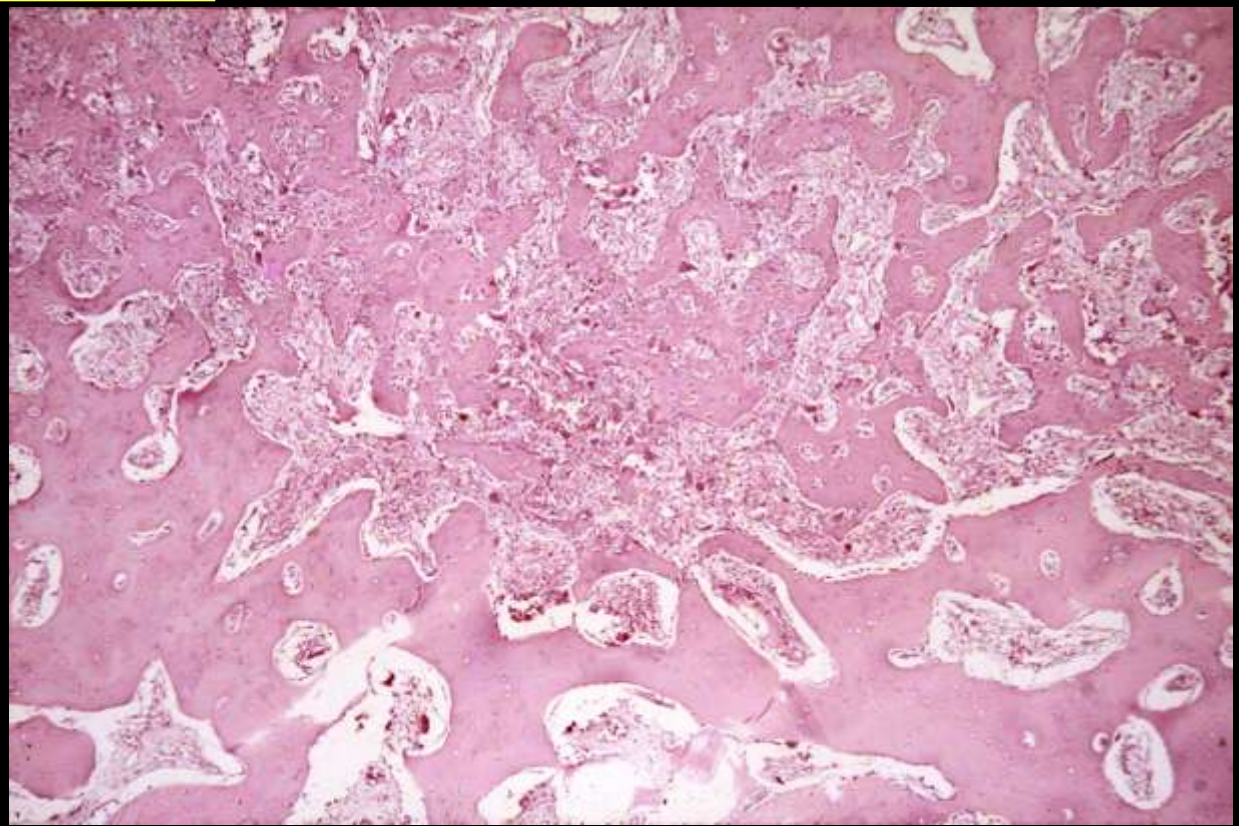

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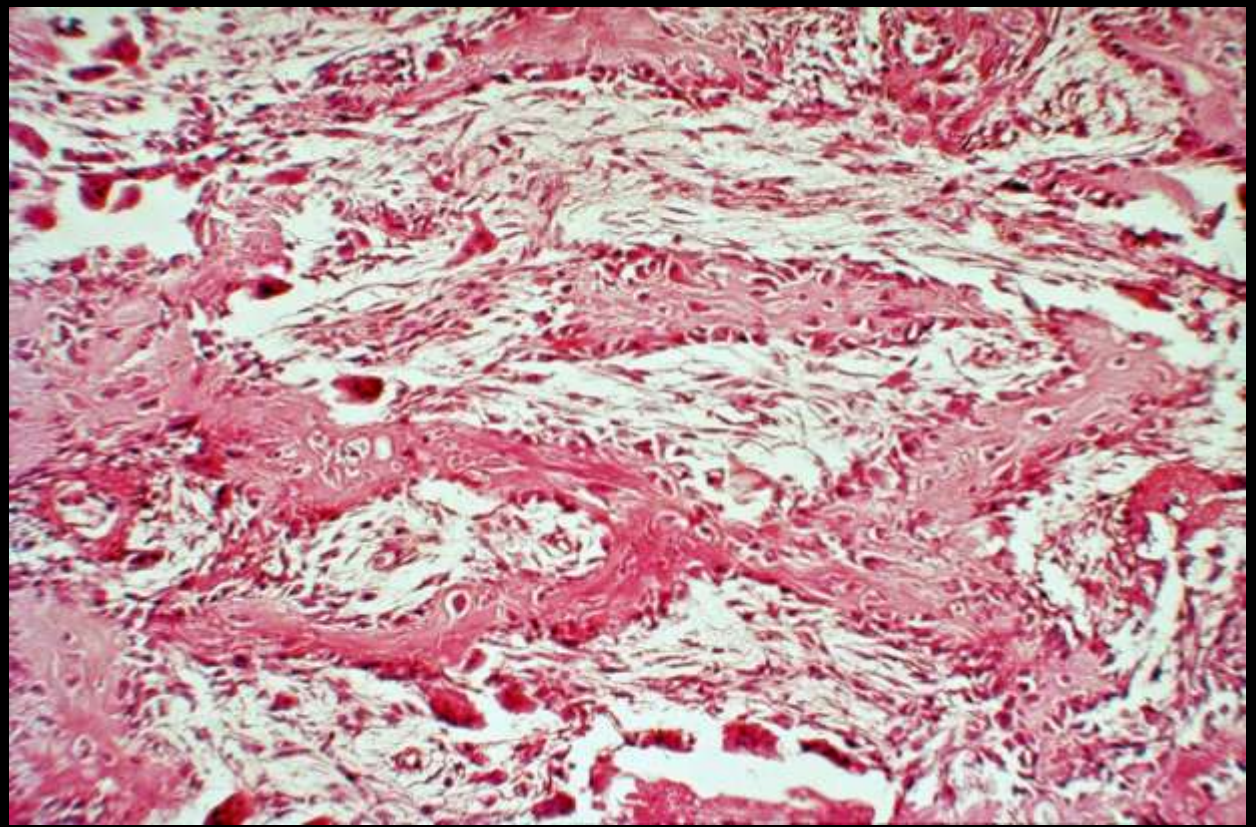

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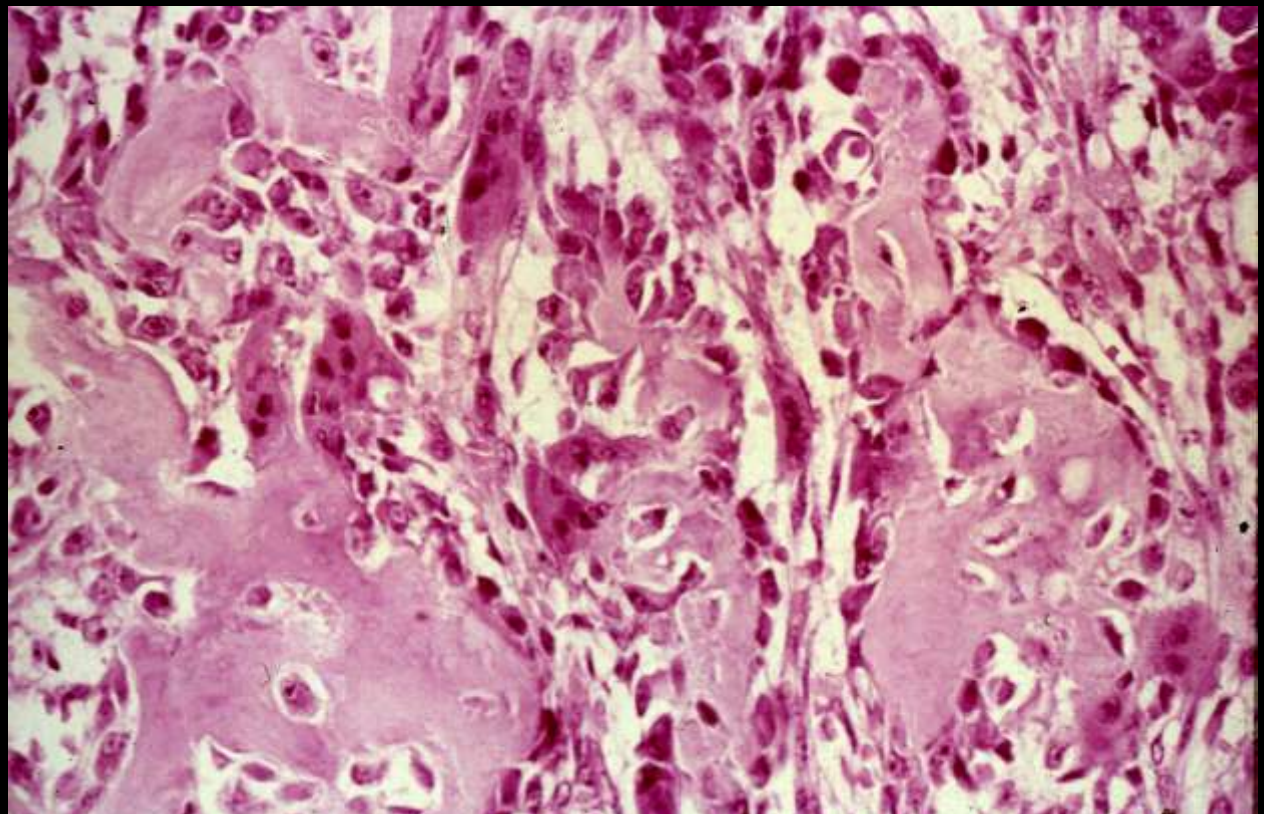
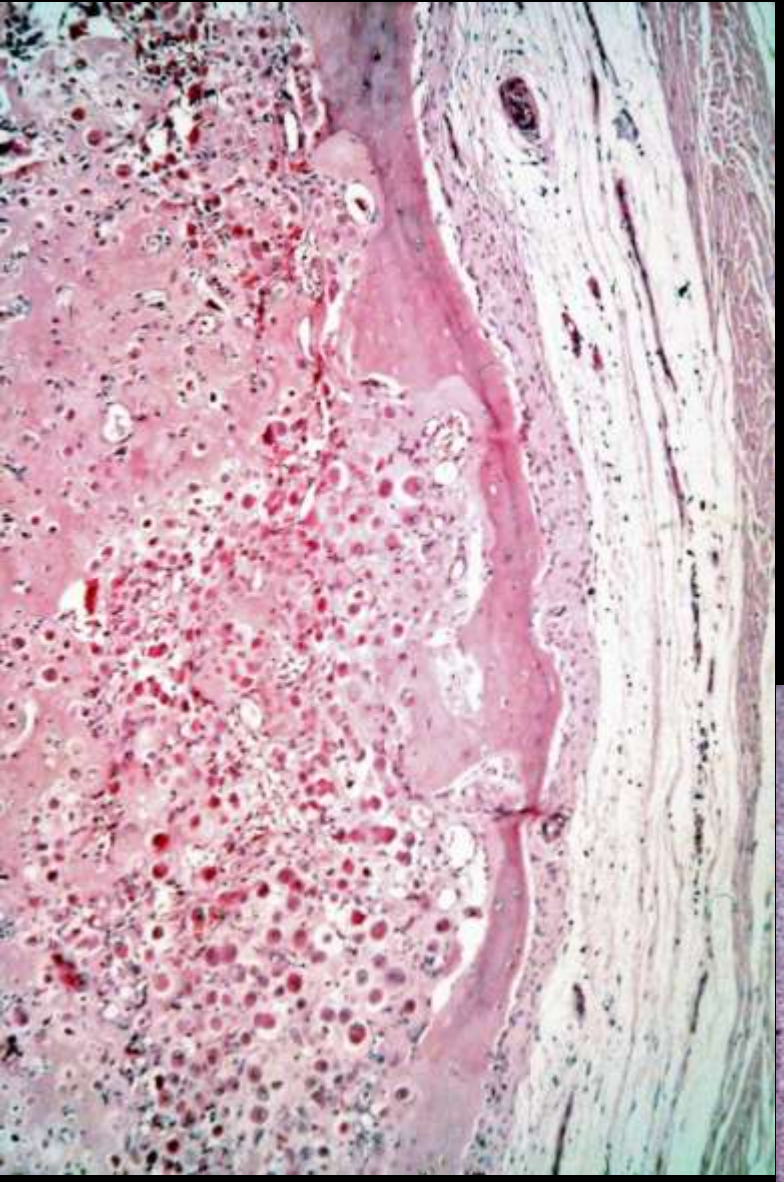


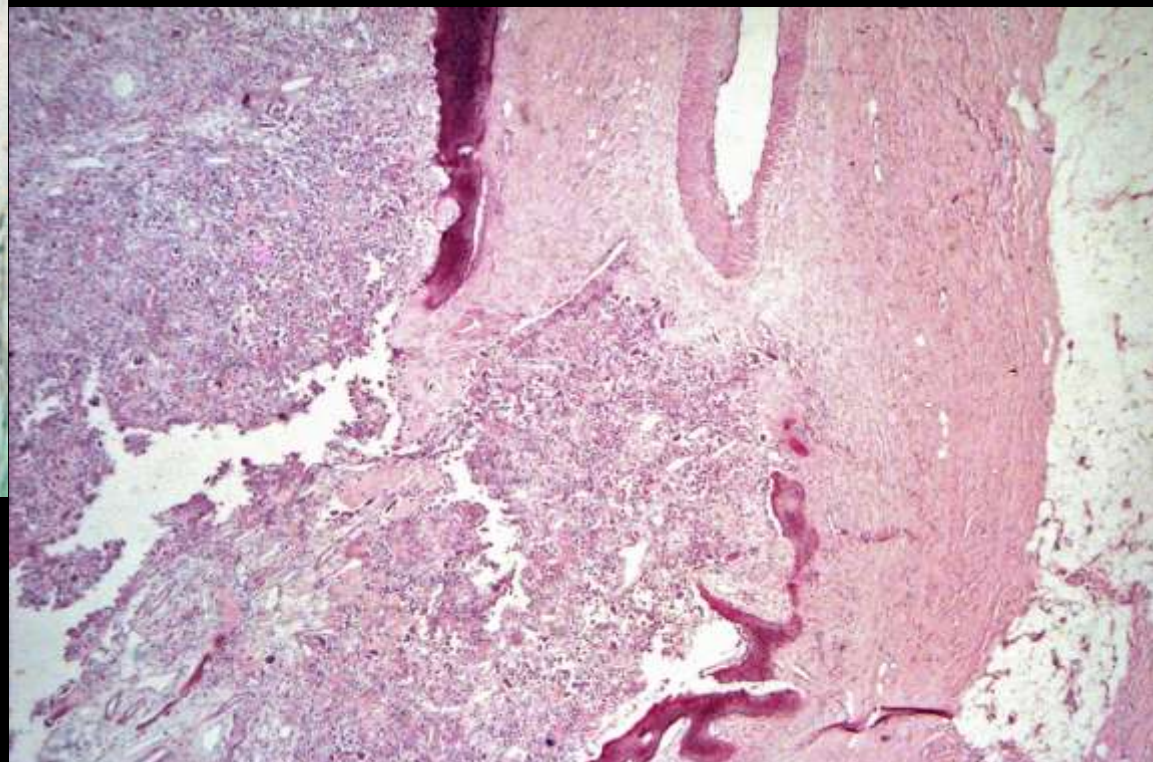


OSTEOSARCOMA

Permeación de la superficie.

Permeación entre trabéculas óseas normales preexistentes.

Playas de osteoblastos sin producción de hueso entre trabéculas óseas nativas.



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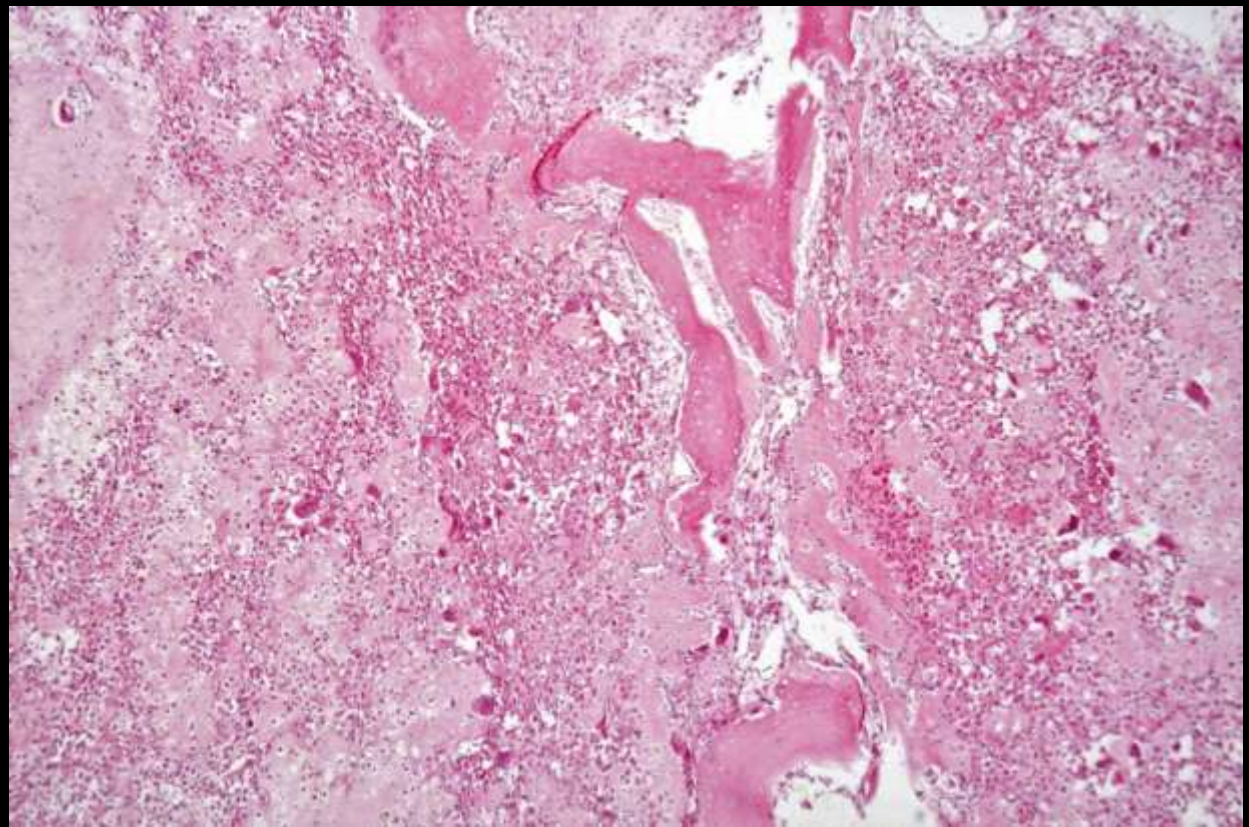

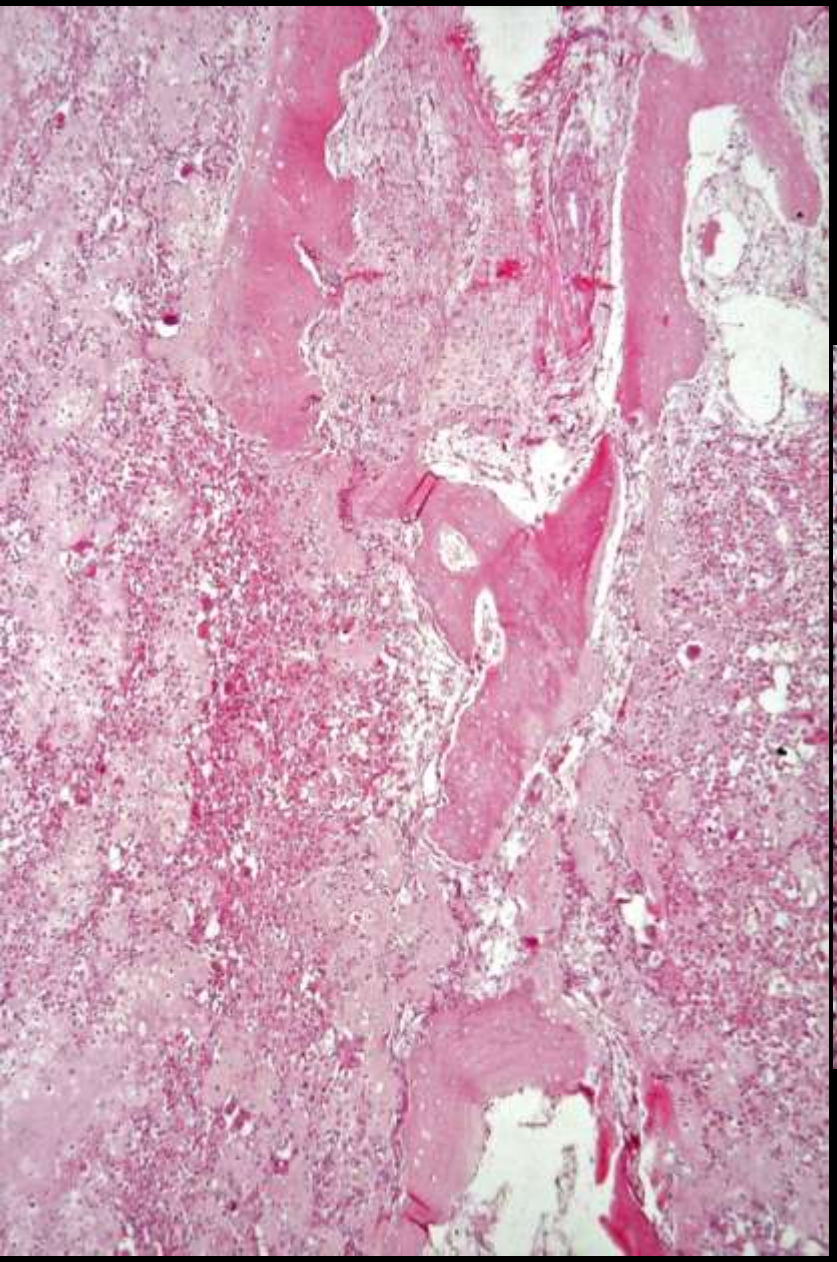

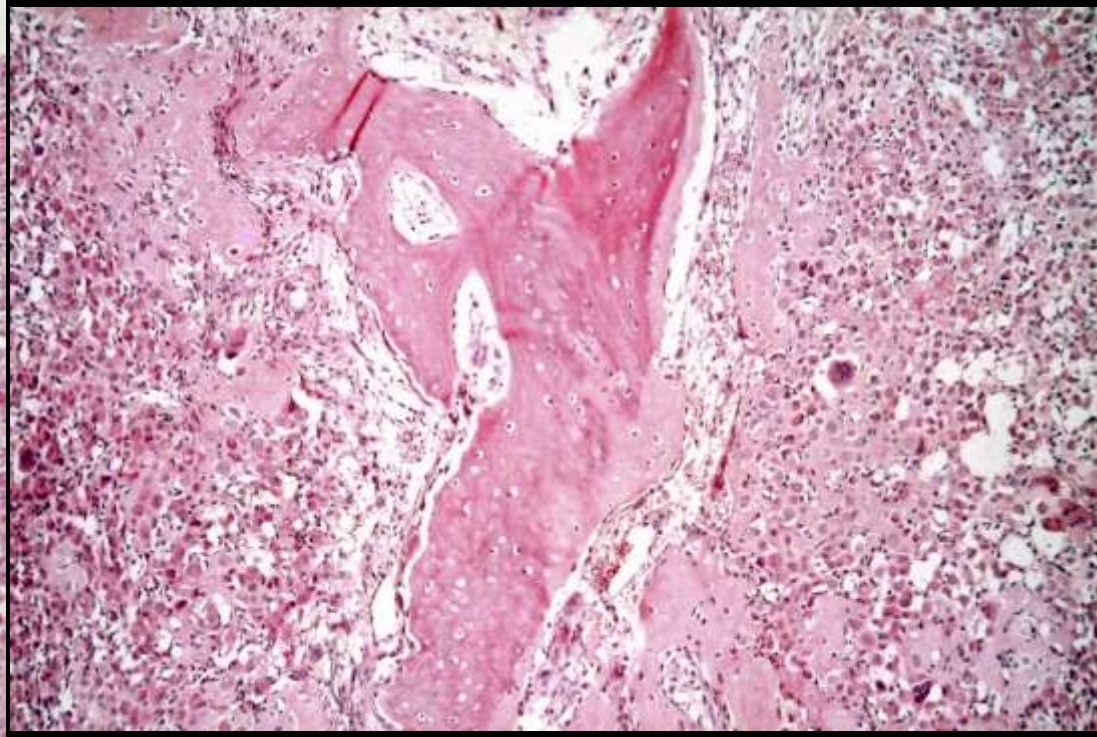

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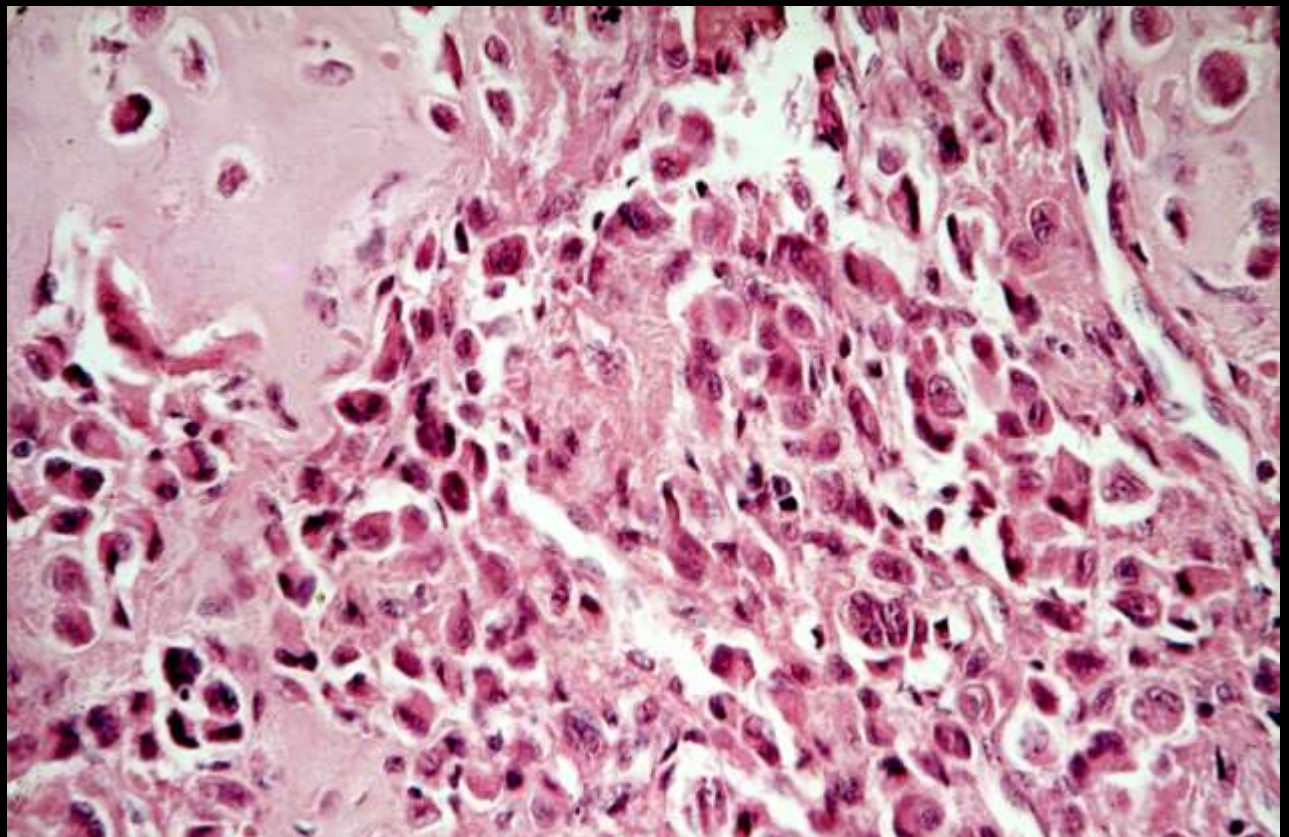

"… I find the distinction between osteoblastoma and osteosarcoma to be probably the most difficult area in bone tumor pathology."

Unni, K.K. 1994
(Hong Kong)

" Although I believe that the distinction between osteoblastoma and osteosarcoma can be made confidently in most cases, there are a few in which I find this distinction impossible, especially on limited biopsy material"

Unni, K.K. 1994
(Hong Kong)

La herencia familiar !