成骨性肿瘤的影像诊断与鉴别诊断

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成骨性肿瘤(bone-forming or osteogenic lesions)组织学良性

- 肿瘤细胞形成骨样基质的肿瘤。

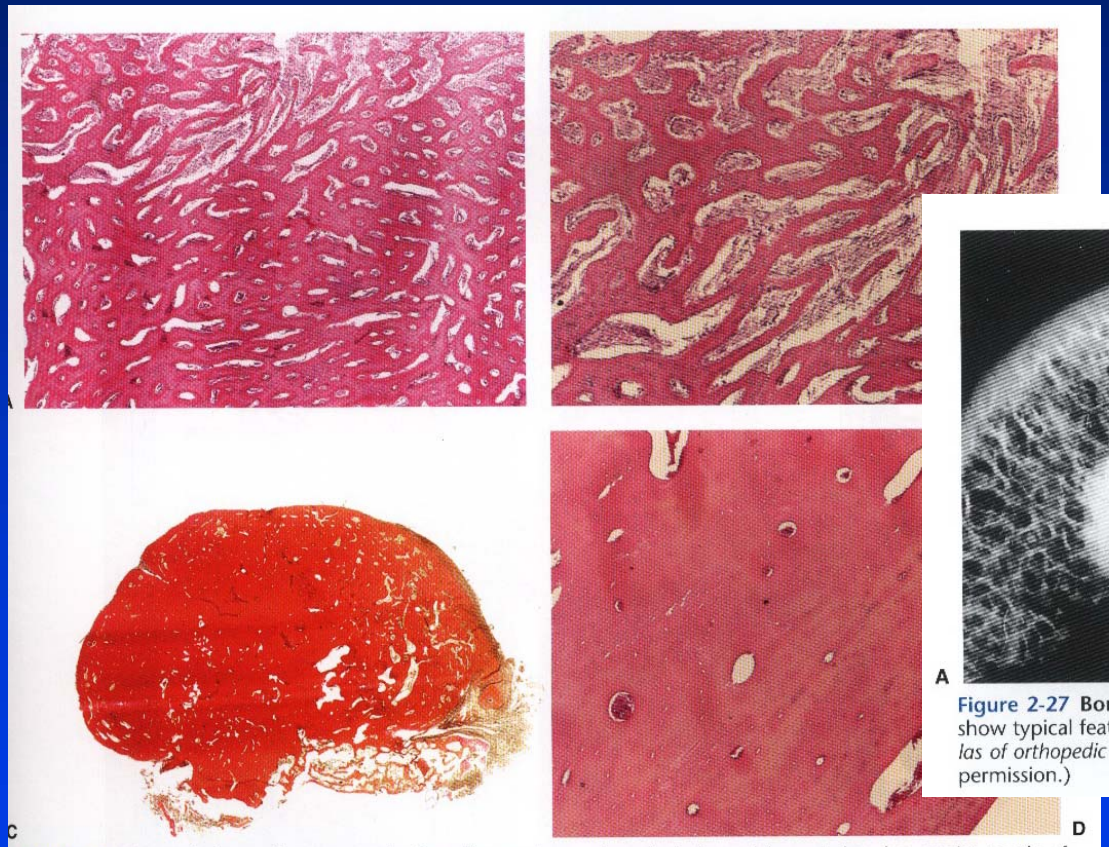

Figure 2-5 **Histopathology of osteoma. A:** Cancellous osteoma. Irregularly formed bone trabeculae consist mostly of lamellar bone (hematoxylin and eosin, original magnification ×25). **B:** Cancellous osteoma. Intertrabecular spaces enclose highly vascular fibrous marrow tissue (hematoxylin and eosin, original magnification ×50). **C:** Compact osteoma. Dense, compact, mostly lamellar bone surrounds narrow marrow spaces. The surface is rather smooth (van Gieson, whole-mount section). **D:** Compact osteoma. Some osteocyte lacunae are empty as a result of osteocyte decline due to inefficient nourishment (hematoxylin and eosin, original magnification ×200).

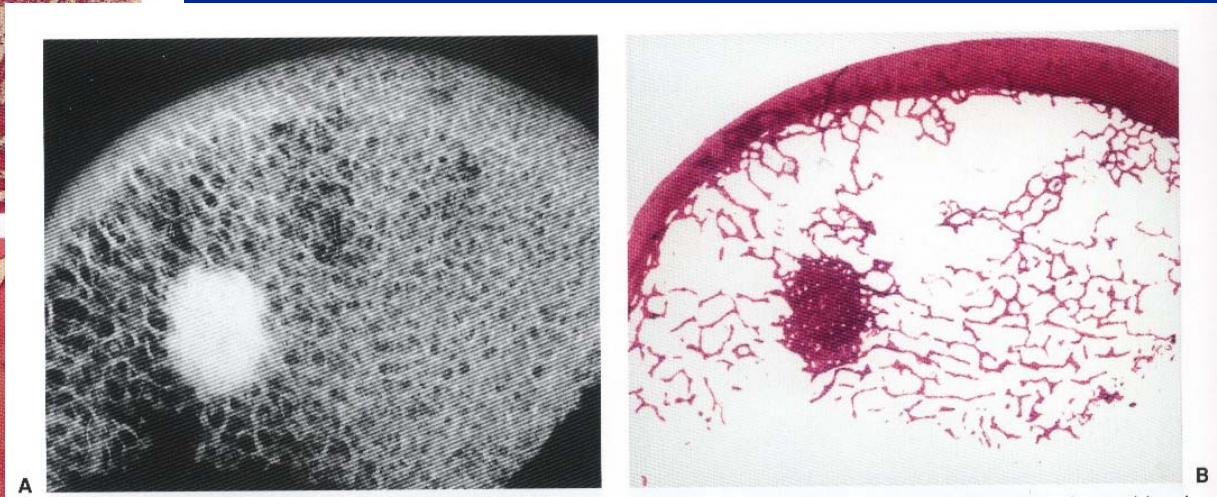

Figure 2-27 **Bone island: histopathology.** Slab radiograph **(A)** and low-power photomicrograph **(B)** of the femoral head show typical features of enostosis. Note characteristic thorn-like trabeculae radiating from the lesion. (From Bullough PG. *Atlas of orthopedic pathology with clinical and radiologic correlations,* 2nd ed. New York: Gower Medical Publishing, 1992, with permission.)

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- 肿瘤细胞形成骨样基质的肿瘤。

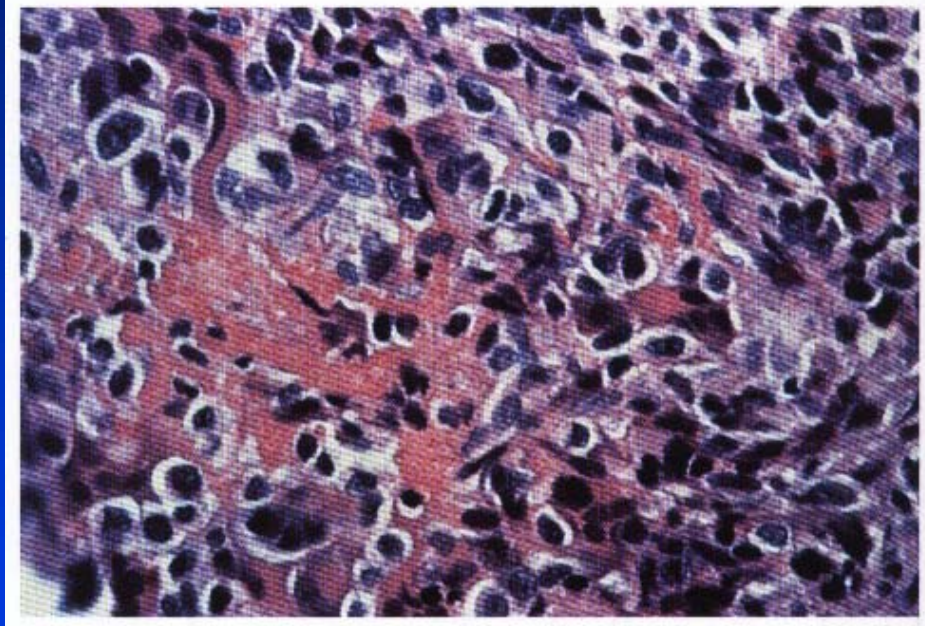
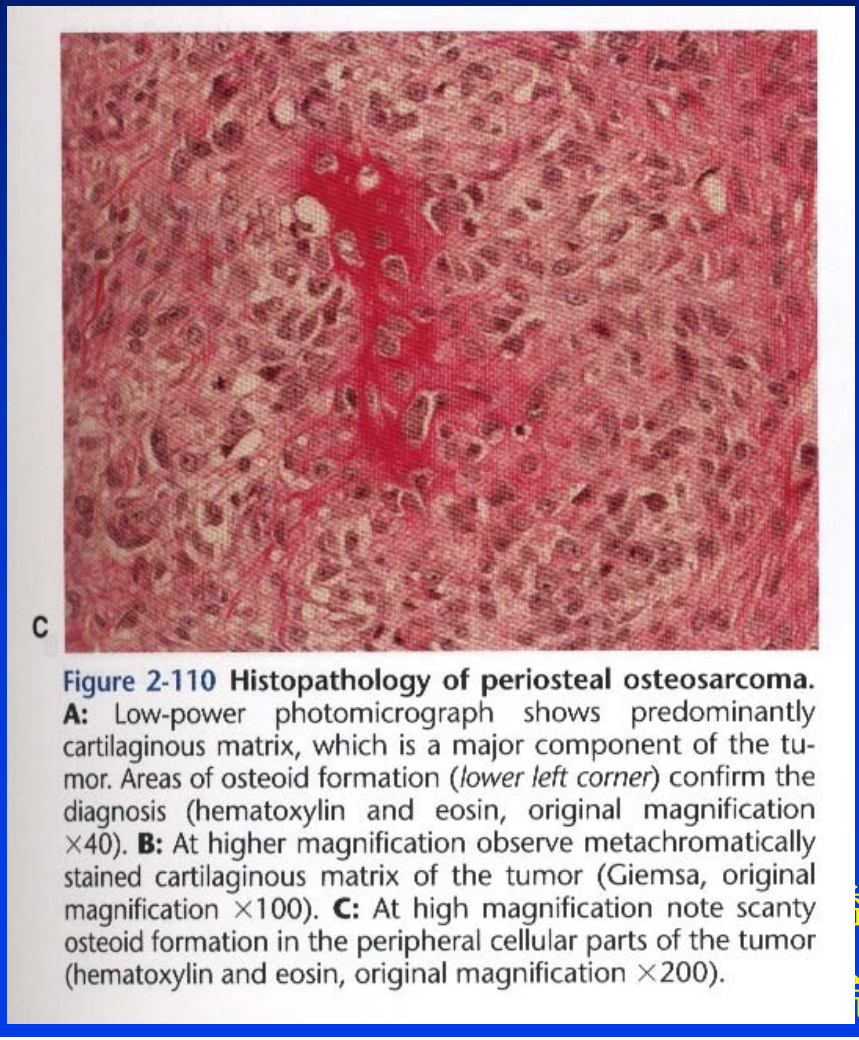


Figure 2-82 Histopathology of conventional osteosarcoma Markedly pleomorphic tumor cells are separated by lace-like osteoid (hematoxylin and eosin, original magnification ×400).

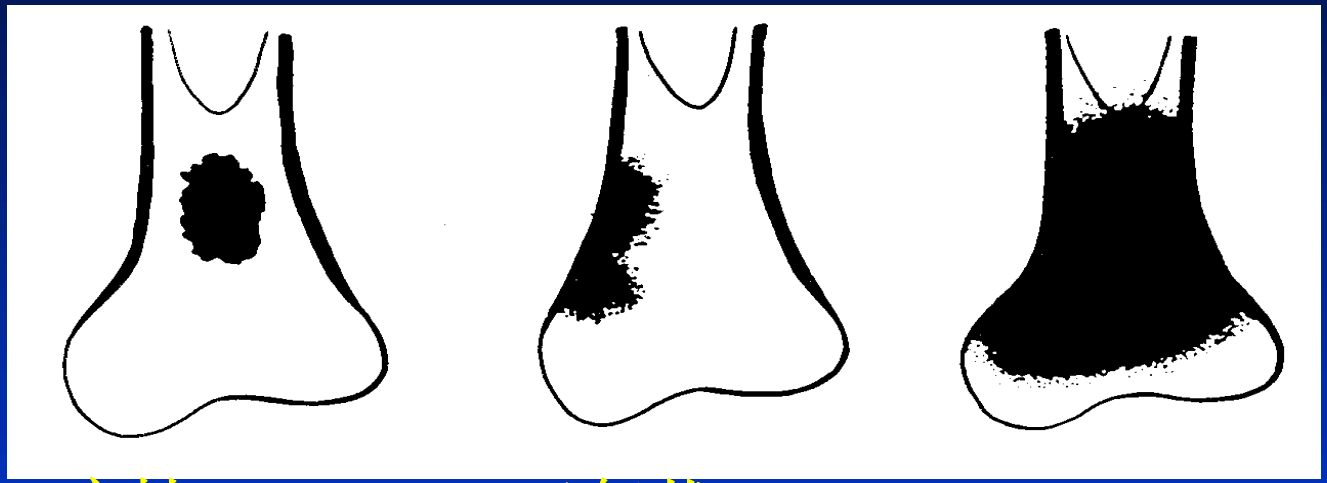


C

Figure 2-110 **Histopathology of periosteal osteosarcoma.** **A:** Low-power photomicrograph shows predominantly cartilaginous matrix, which is a major component of the tumor. Areas of osteoid formation (*lower left corner*) confirm the diagnosis (hematoxylin and eosin, original magnification ×40). **B:** At higher magnification observe metachromatically stained cartilaginous matrix of the tumor (Giemsa, original magnification ×100). **C:** At high magnification note scanty osteoid formation in the peripheral cellular parts of the tumor (hematoxylin and eosin, original magnification ×200).

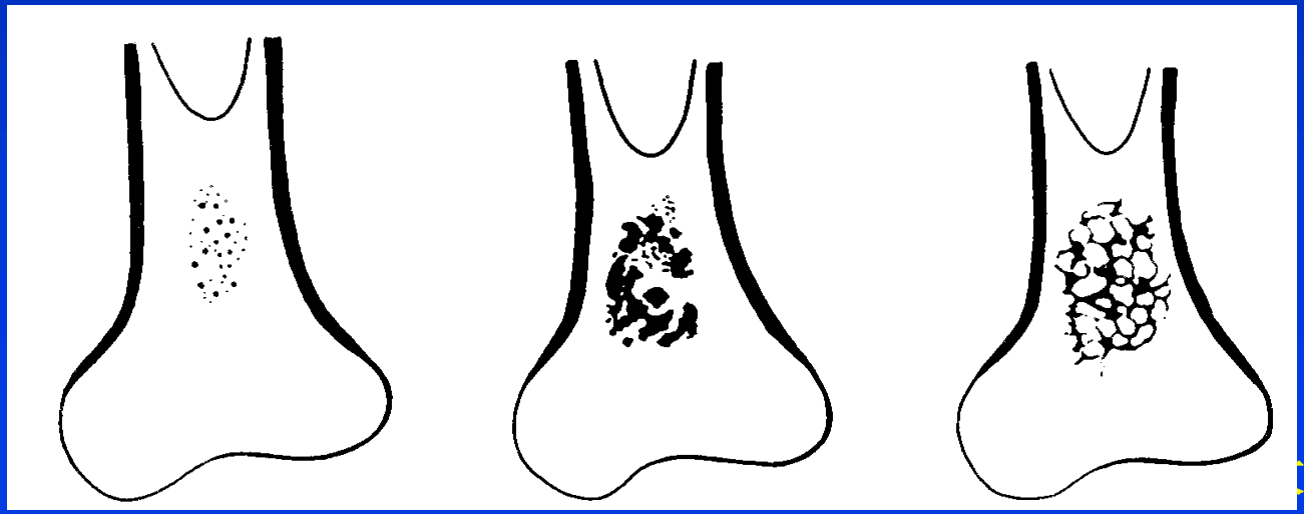
肿瘤基质-肿瘤细胞产生的细胞间质为肿瘤基质

骨样基质



实性　　云絮状　　象牙样

软骨基质



斑点　　斑片　　环形和弧形

骨性基质-平片表现

- 女，62岁。颅骨骨瘤

- 男，15岁。骨纤

- 成骨肉瘤

女，20岁，骨肉瘤，瘤骨

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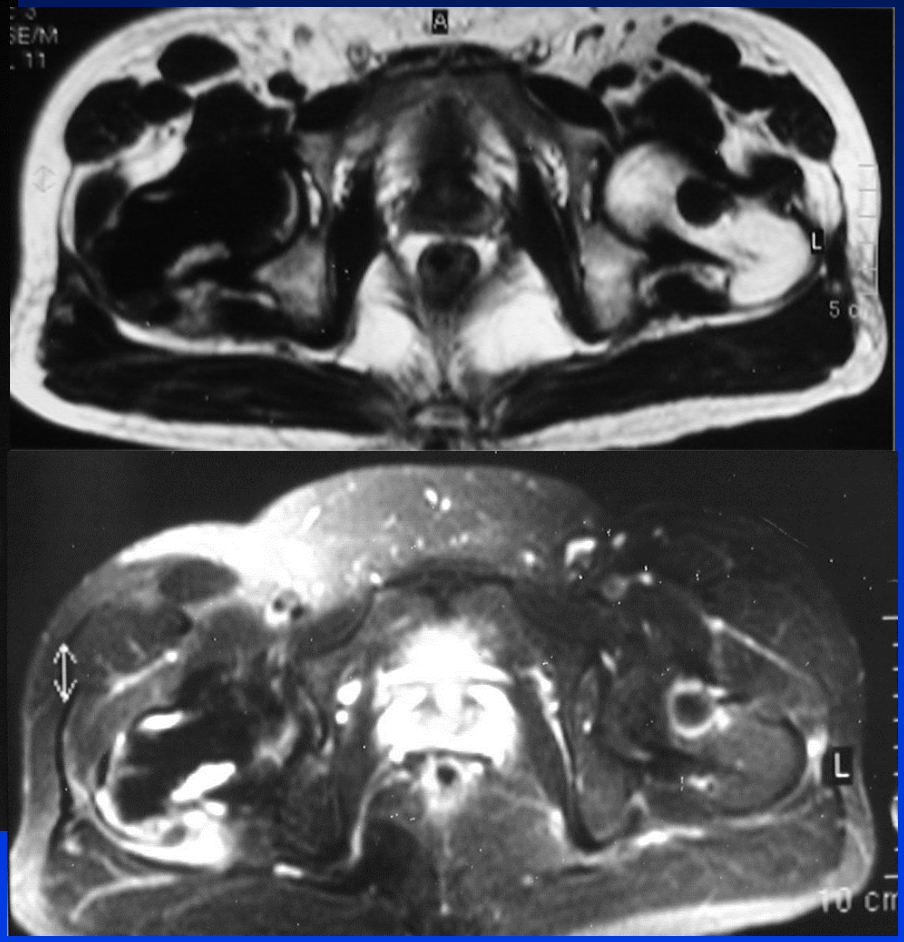
成骨性转移-MRI低信号



- 男，45岁。前列腺癌转移

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软 骨 基 质

软骨发育不良

软骨瘤

骨软骨瘤恶变

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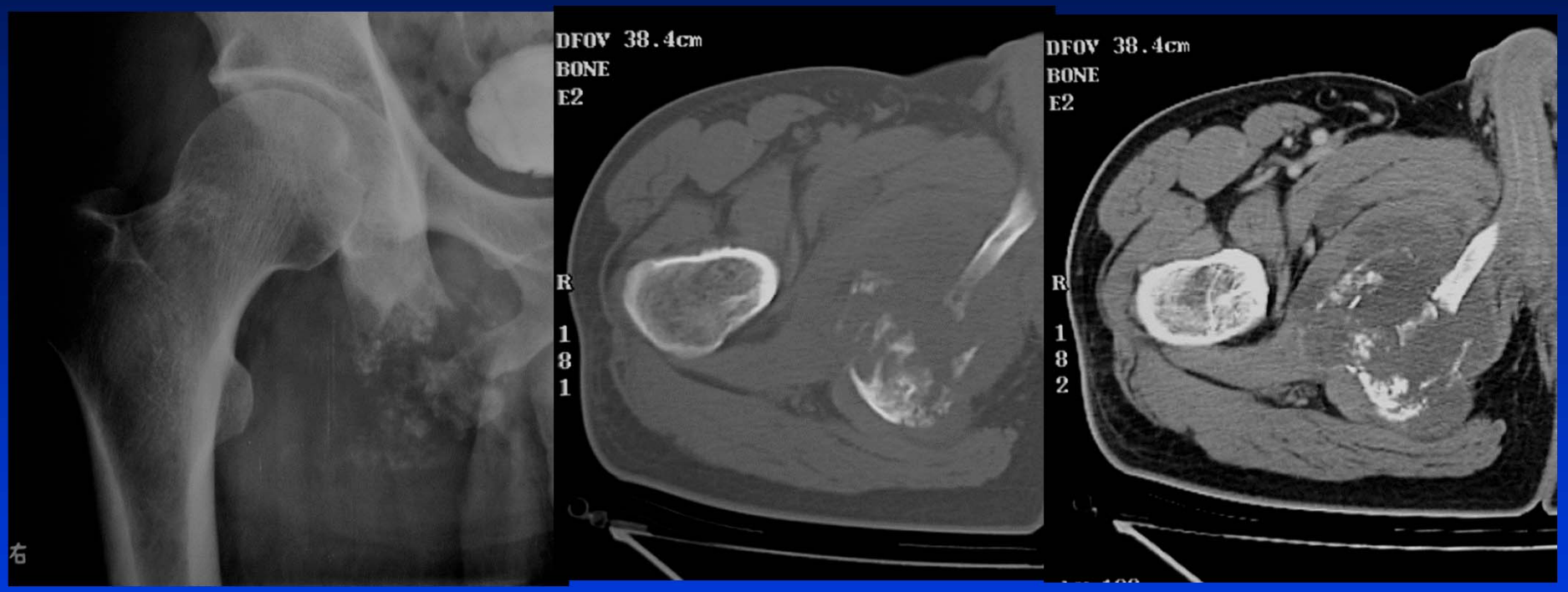
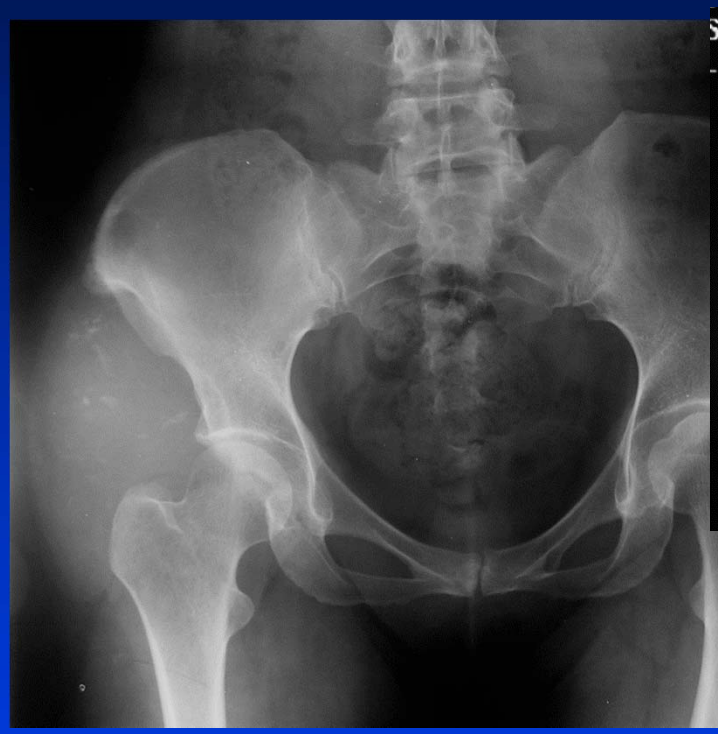
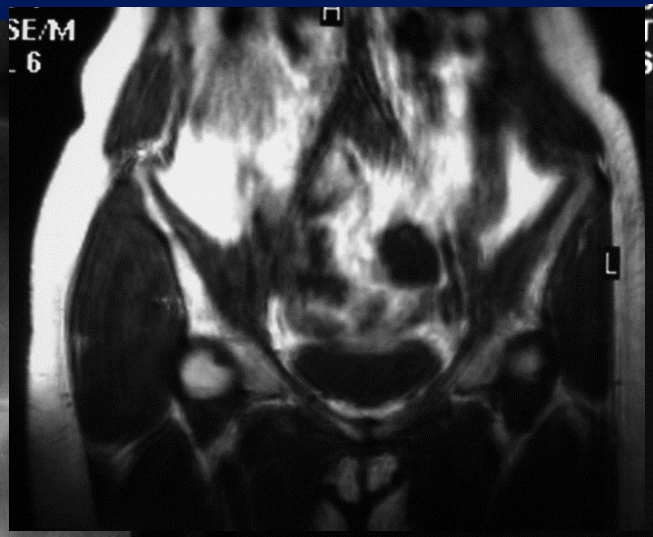
软 骨 基 质

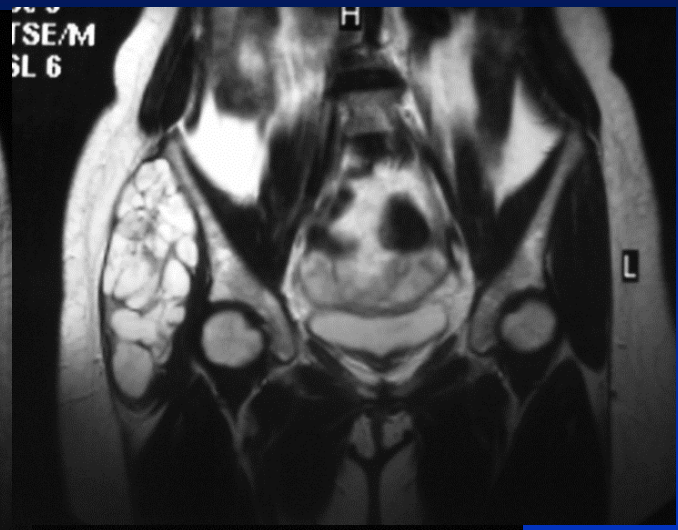


男，50，软骨肉瘤

软组织软骨肉瘤







女，33岁，右髋不适半年。软组织肿块内有钙化，MRI不能显示

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成骨性肿瘤的分类

A. Greenspan

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良性肿瘤

- 骨样组织未骨化时呈透明灶，瘤巢可钙化，瘤骨骨化成熟，密度高、均匀，境界清晰，有正常骨结构。

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骨瘤（Osteoma）

- 好发于颅骨、副鼻窦。多发性骨瘤伴多发性结肠息肉称Gardner氏症候群。
- 按其生长部位可分为外生型和内生型，前者自骨表面向外突出，后者则向随腔内生长，又称内生骨瘤或“骨岛”。临床多见为致密骨型外生骨瘤。
- *年龄*：30-50岁，男多于女性，一般无明显症状。

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骨瘤（Osteoma）

- 病理：组织学分致密型和松质型。
- X线：致密型呈圆形、半圆形，密度均匀，边缘光整。
- 松质型形态大致和致密型相同，但密度较低。

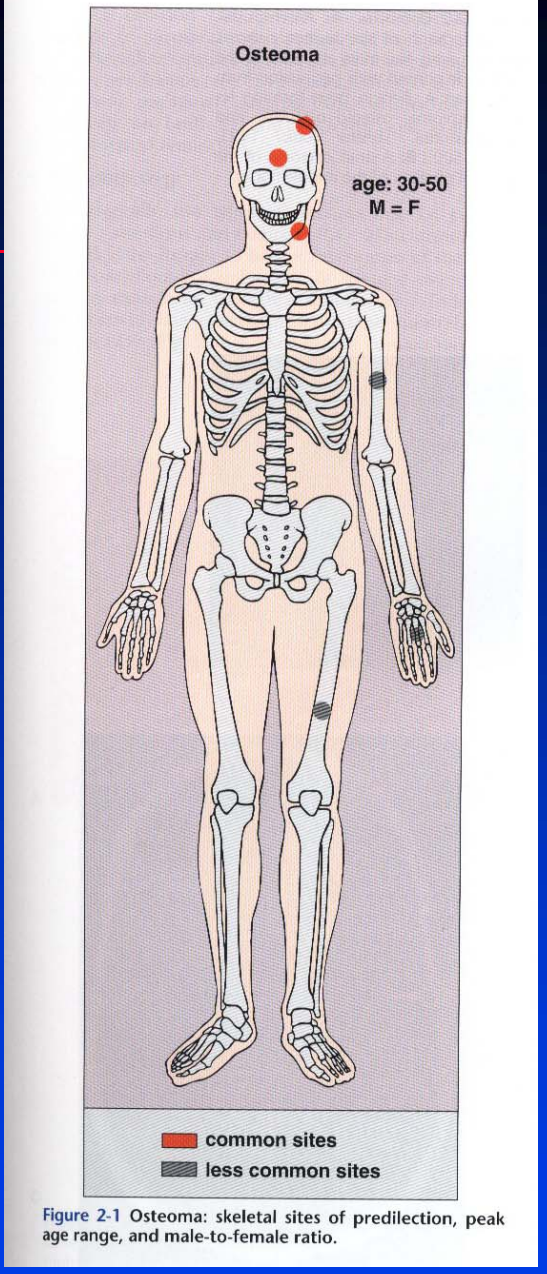

Figure 2-1 Osteoma: skeletal sites of predilection, peak age range, and male-to-female ratio.

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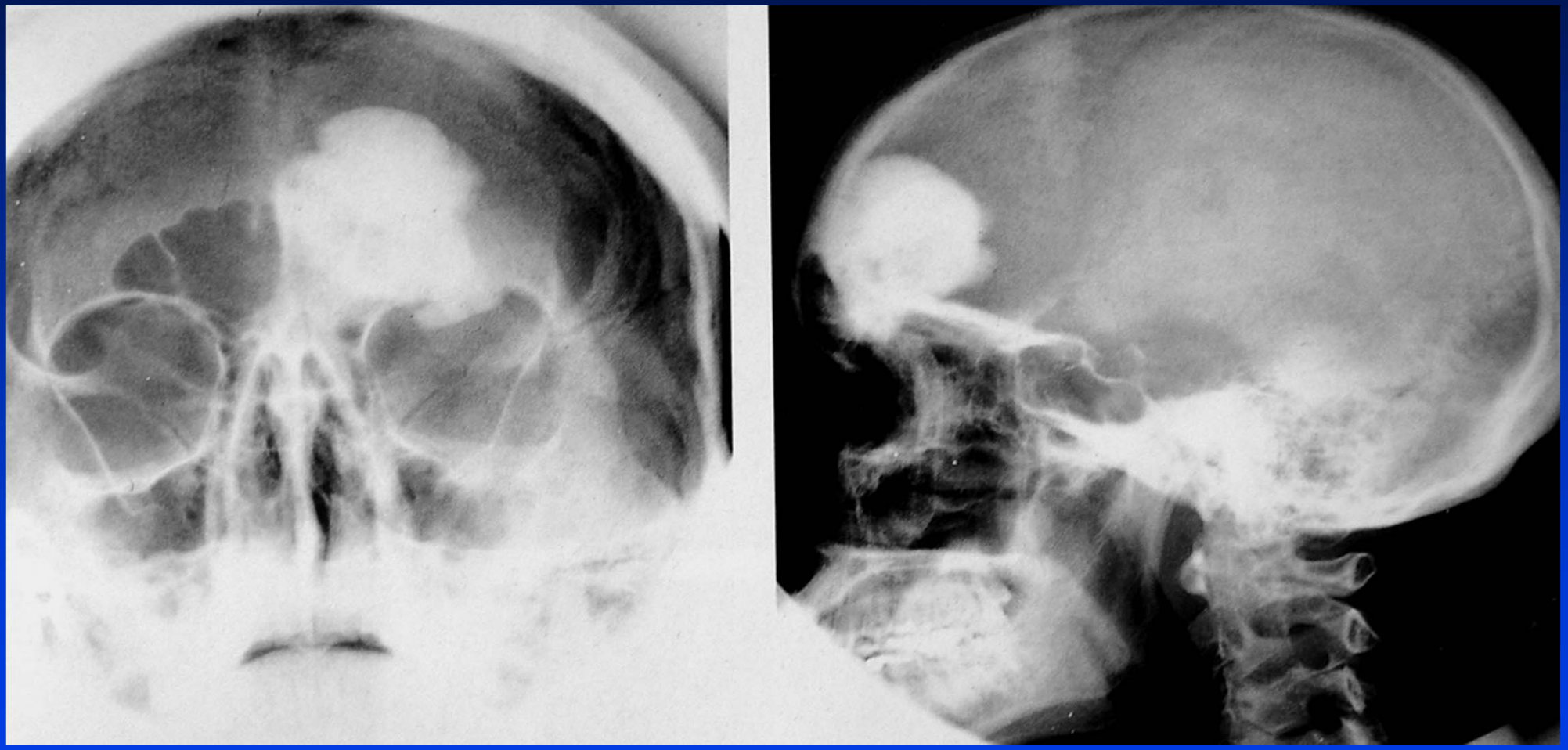
骨瘤



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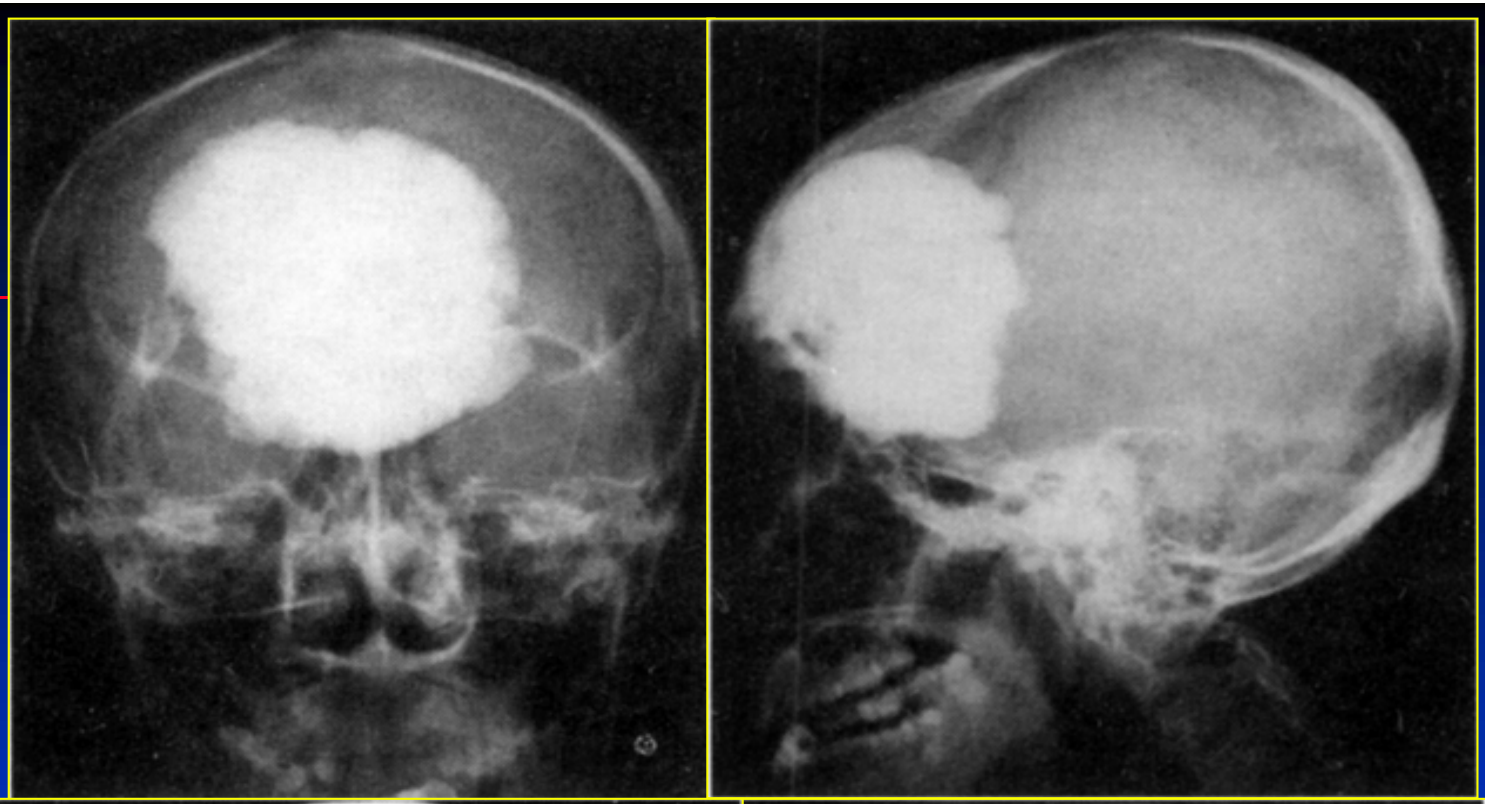
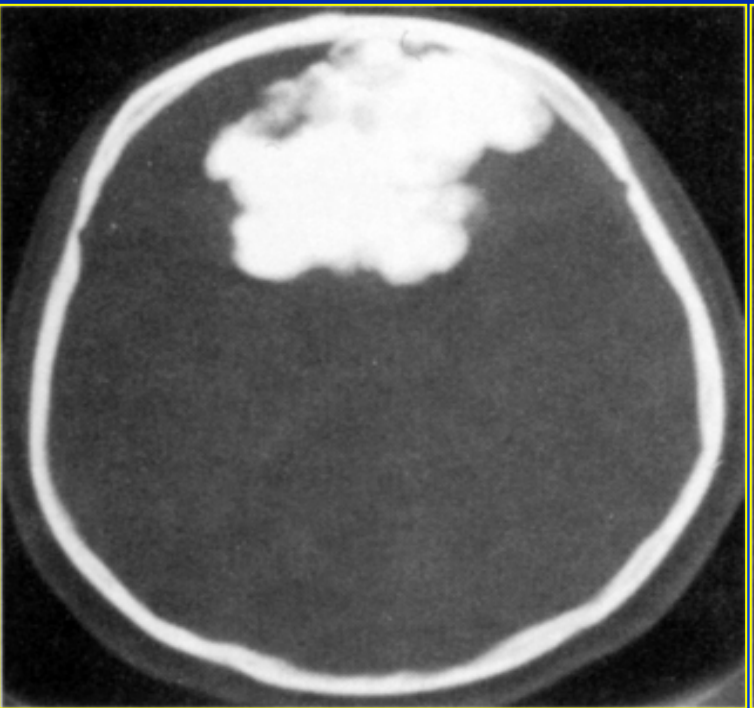
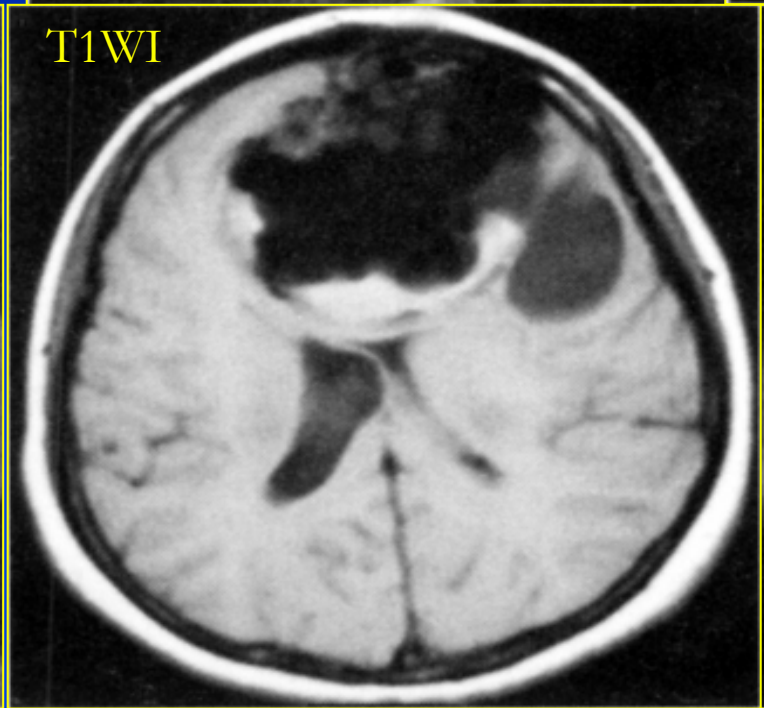
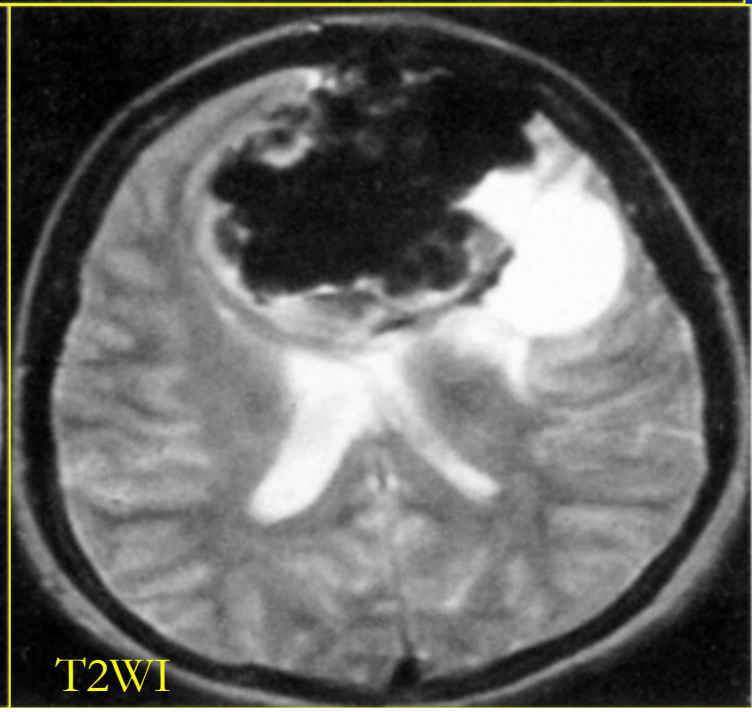
骨瘤









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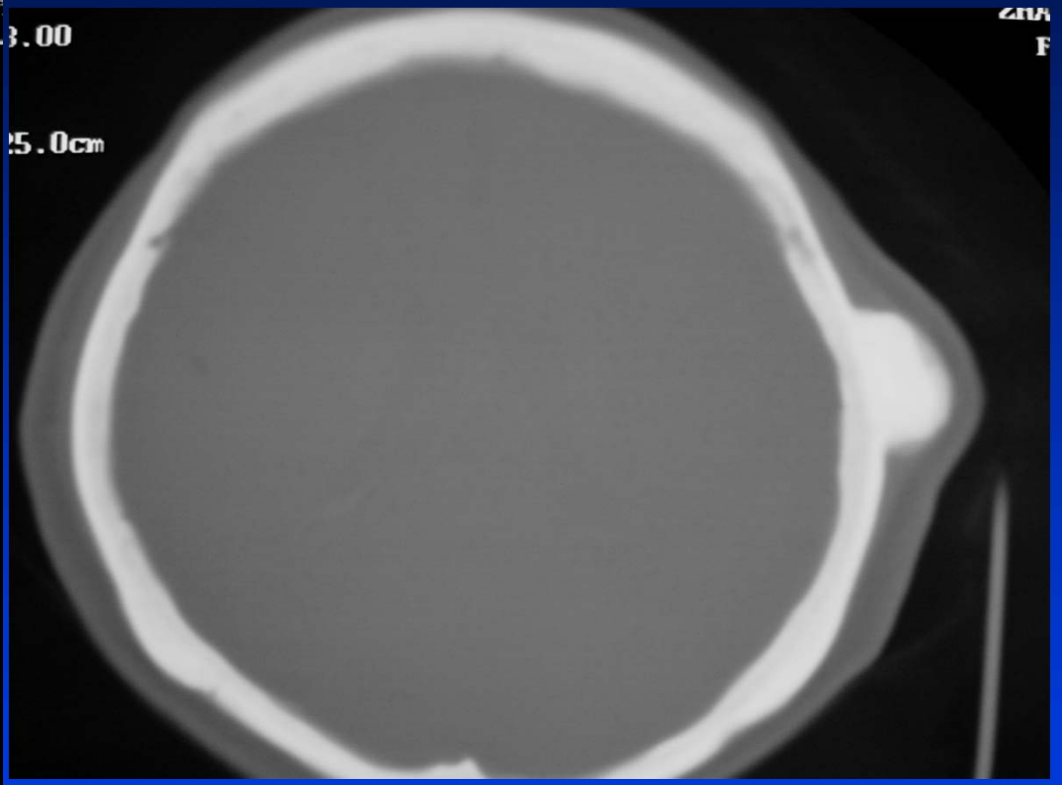

- 女，62岁。颅骨骨瘤

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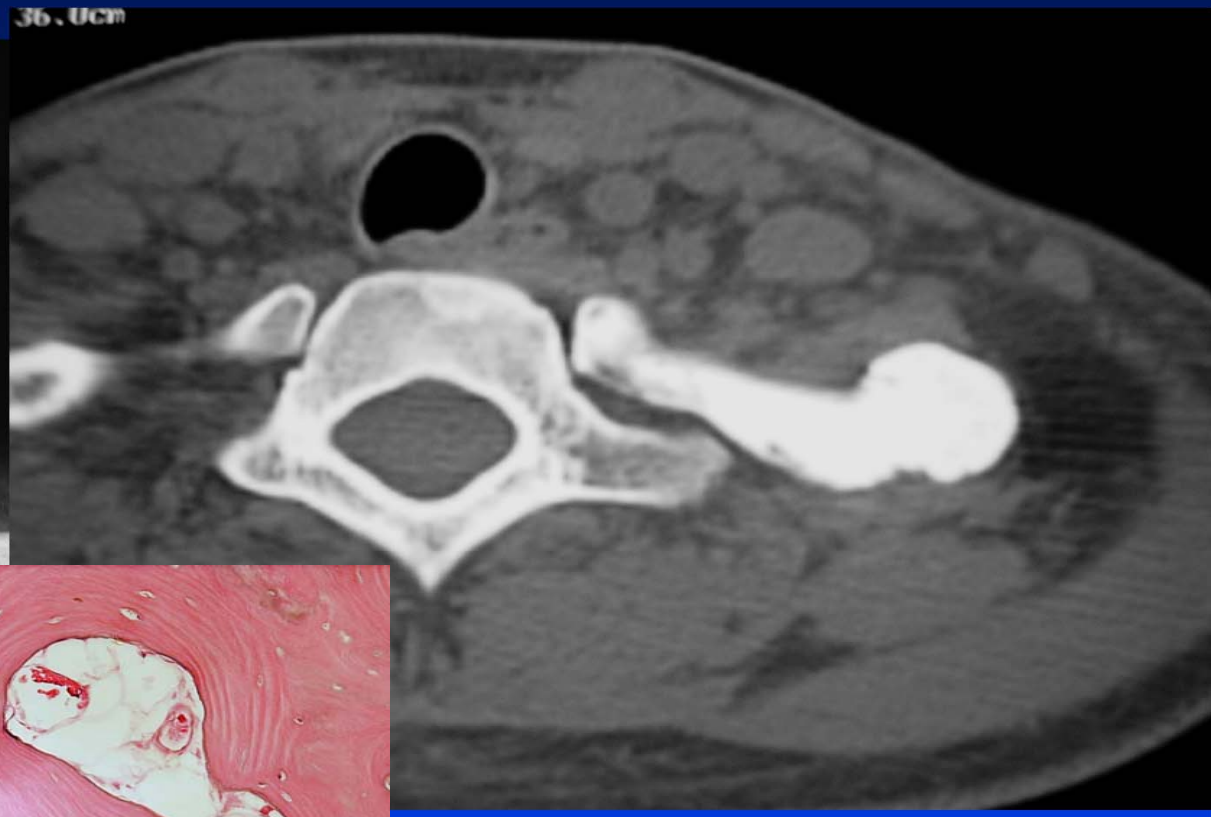
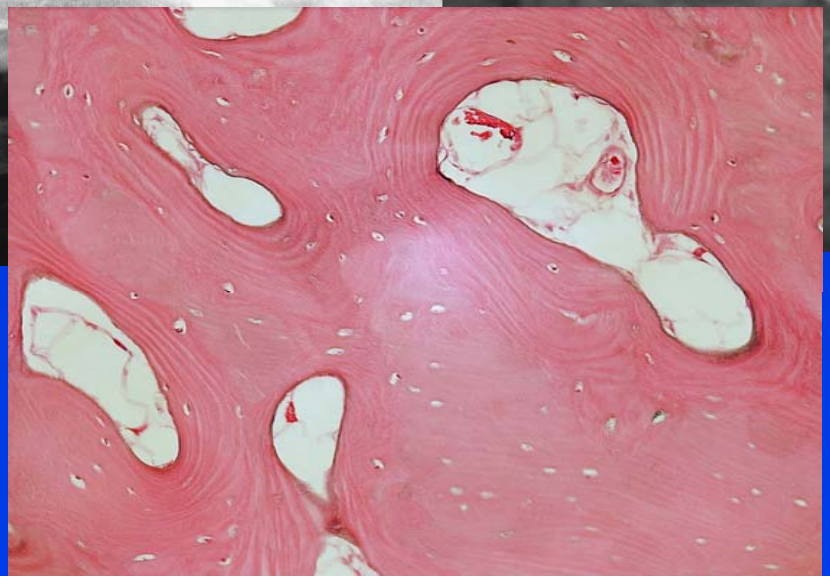
骨瘤





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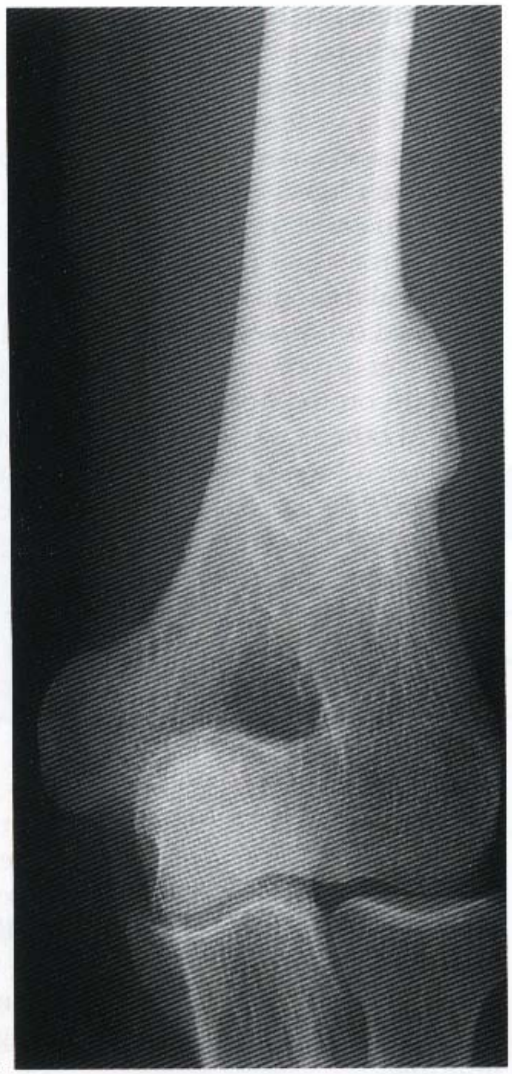
四肢骨瘤



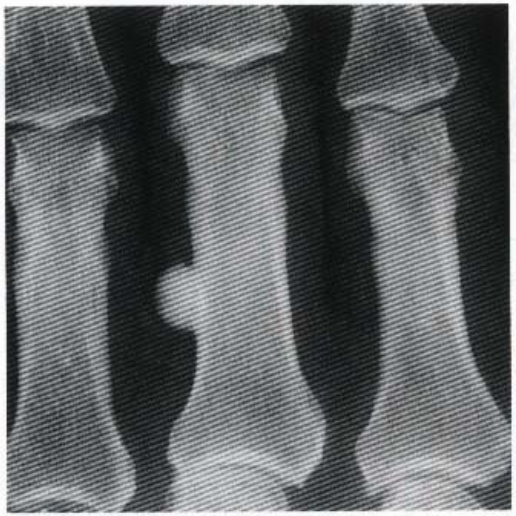


Figure 2-2 Osteoma. A: Anteroposterior radiograph of the humerus shows sclerotic, ivory-like mass attached to the cortex. (Reprinted with permission from Greenspan A. Benign bone-forming lesions: osteoma, osteoid osteoma, and osteoblastoma. *Skeletal Radiol* 1993; 22:485–500.) **B:** A small osteoma of the proximal phalanx of the middle finger.

A

B

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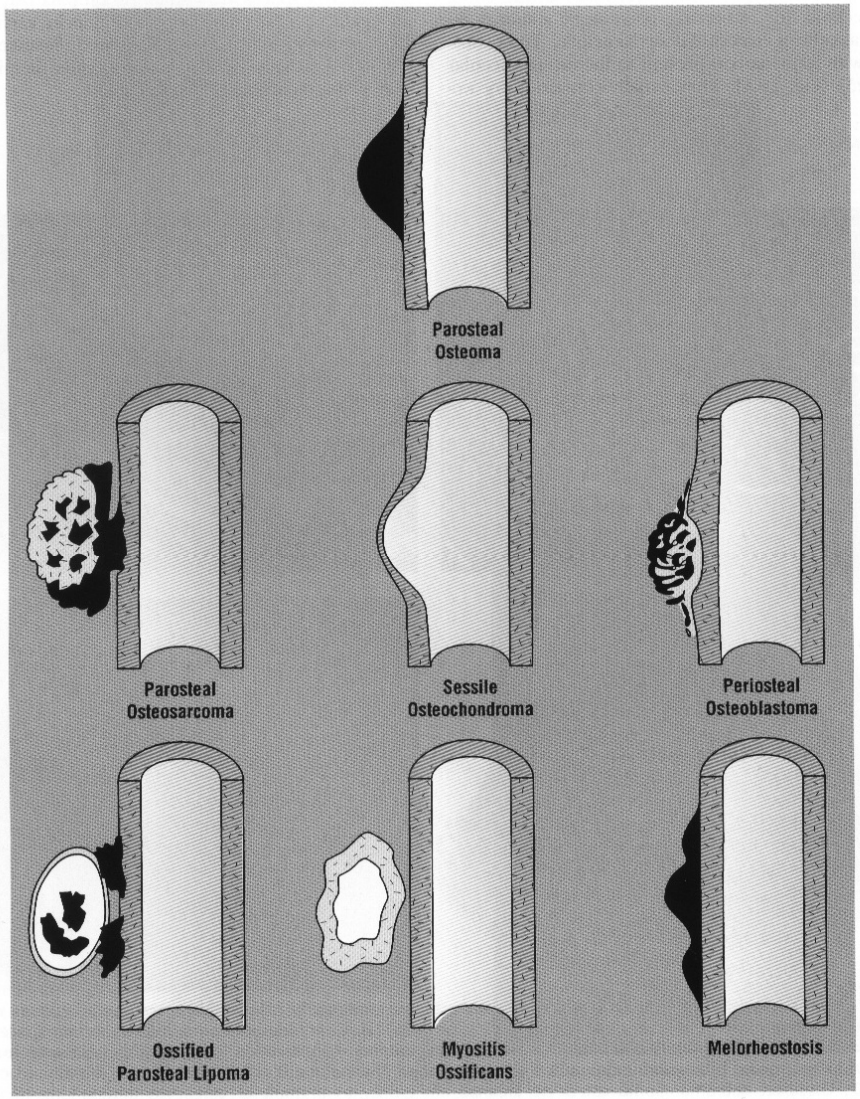
骨瘤鉴别诊断



re 2-6 Schematic representation of differential possibilities of similarly appearing juxtacortical and cortical lesions.

Table 2-1 **Differential Diagnosis of Parosteal Osteoma**

Condition (Lesions)	Radiologic Features	Pathologic Features
Parosteal osteoma	Ivory-like, homogenously dense sclerotic mass, with sharply demarcated borders, intimately attached to cortex. No cleft between lesion and adjacent cortex.	Mature lamellar bone (either consisting of concentric rings of compact bone, or parallel plates of cancellous bone), lack of active fibrous stroma.
Parosteal osteosarcoma	Ivory-like, frequently lobulated sclerotic mass, homo- or heterogeneous in density with more radiolucent areas at periphery. Incomplete cleft between lesion and adjacent cortex occasionally present.	Streamers of woven to woven-lamellar bone with heavily collagenized stroma. Moderately cellular foci with nuclei exhibiting slight pleomorphism.
Sessile osteochondroma	Cortex of host bone merges without interruption with cortex of lesion and respective cancellous portions of adjacent bone and osteochondroma communicate.	Cartilaginous cap composed of hyaline cartilage arranged similarly to growth plate. Beneath zone of endochondral ossification with vascular invasion and replacement of calcified cartilage by newly formed bone. Intertrabecular spaces may contain fatty or hematopoietic marrow.
Juxtacortical myositis ossificans	Zonal phenomenon: radiolucent area in center of lesion and dense zone of mature ossification at periphery. Frequently thin radiolucent cleft separates ossific mass from adjacent cortex.	Trabecular bone and fibrous marrow. Histologic zonal phenomenon: immature bone in the center with proliferating osteoblasts, fibroblasts, and areas of hemorrhage and necrosis; mature bone at the periphery.
Periosteal osteoblastoma	Round or ovoid heterogenous in density mass attached to cortex.	Trabeculae of women bone, numerous dilated capillaries, exuberant in number osteoblasts, osteoclasts, and fibroblasts.
Ossified parosteal (periosteal) lipoma	Lobulated mass containing irregular ossifications and radiolucent area of fat. Hyperostosis of adjacent cortex occasionally present.	Formation of mature bone within adipose tissue. Occasionally foci of necrosis and calcifications.
Melorheostosis (monostotic)	Cortical thickening resembling wax dripping down one side of a candle. Commonly extends to the joint.	Thickened cortical bone containing irregularly arranged Haversian canals surrounded by cellular fibrous tissue. Osteoblastic activity usually present.

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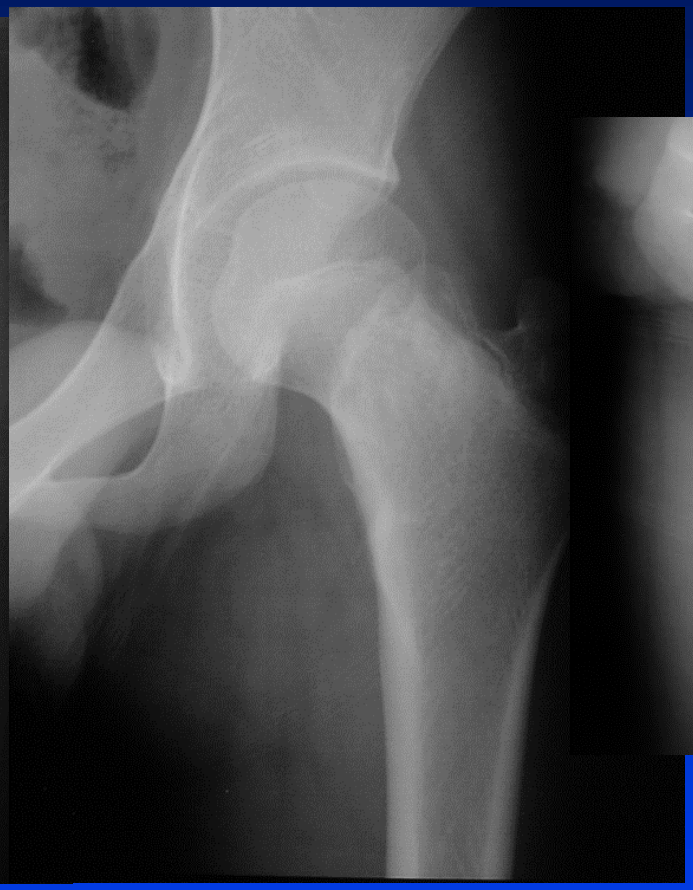
骨化性肌炎



- 男，13岁。
- 10天后
- 1年后

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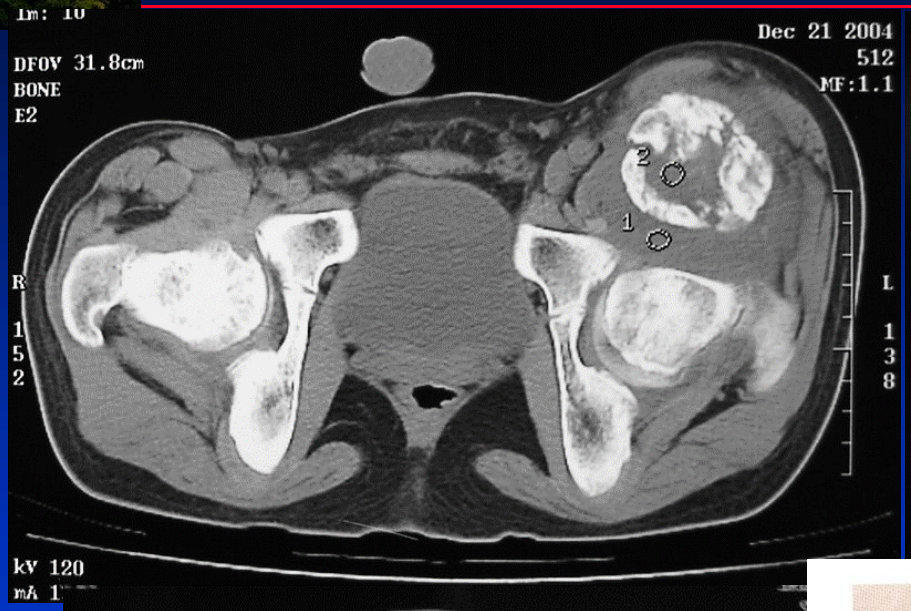
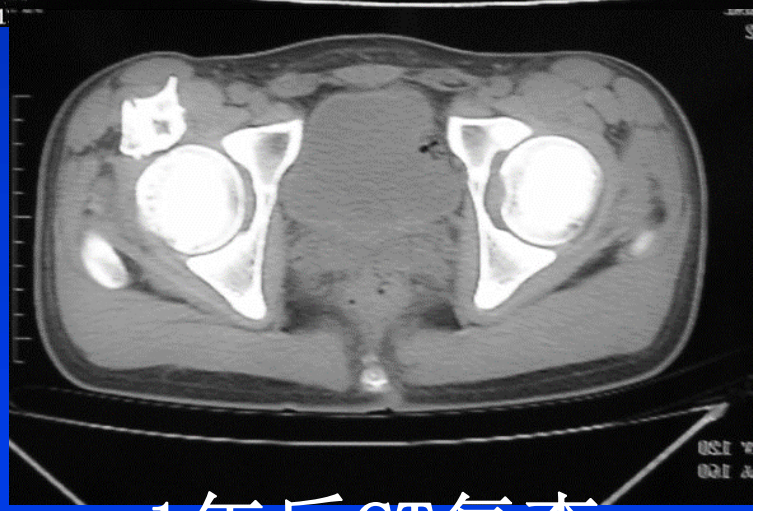
骨化性肌炎（续）





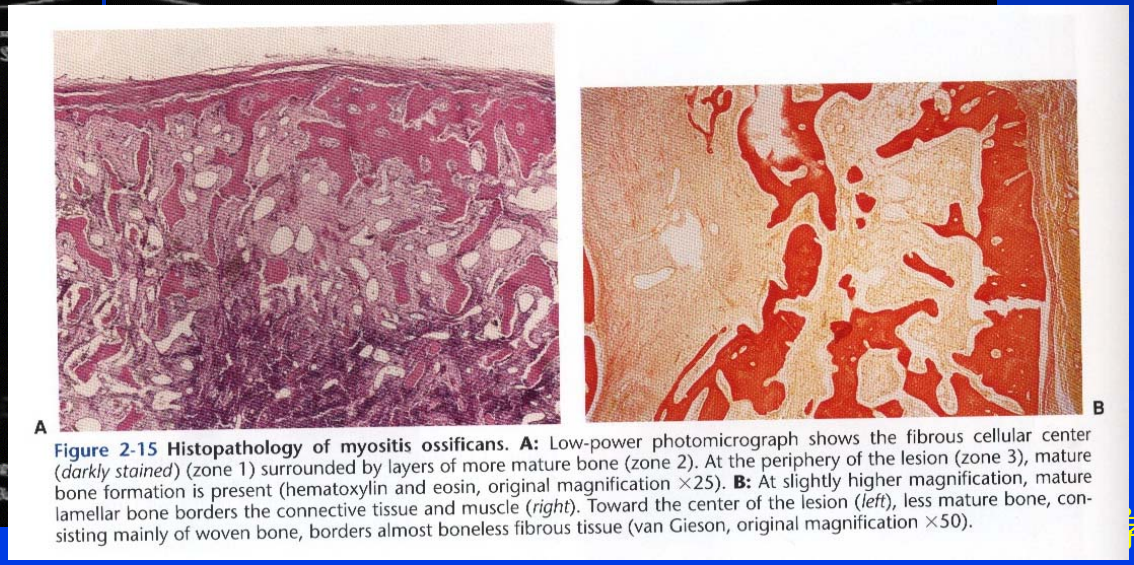


Figure 2-15 **Histopathology of myositis ossificans. A:** Low-power photomicrograph shows the fibrous cellular center (*darkly stained*) (zone 1) surrounded by layers of more mature bone (zone 2). At the periphery of the lesion (zone 3), mature bone formation is present (hematoxylin and eosin, original magnification ×25). **B:** At slightly higher magnification, mature lamellar bone borders the connective tissue and muscle (*right*). Toward the center of the lesion (*left*), less mature bone, consisting mainly of woven bone, borders almost boneless fibrous tissue (van Gieson, original magnification ×50).

- 1年后CT复查

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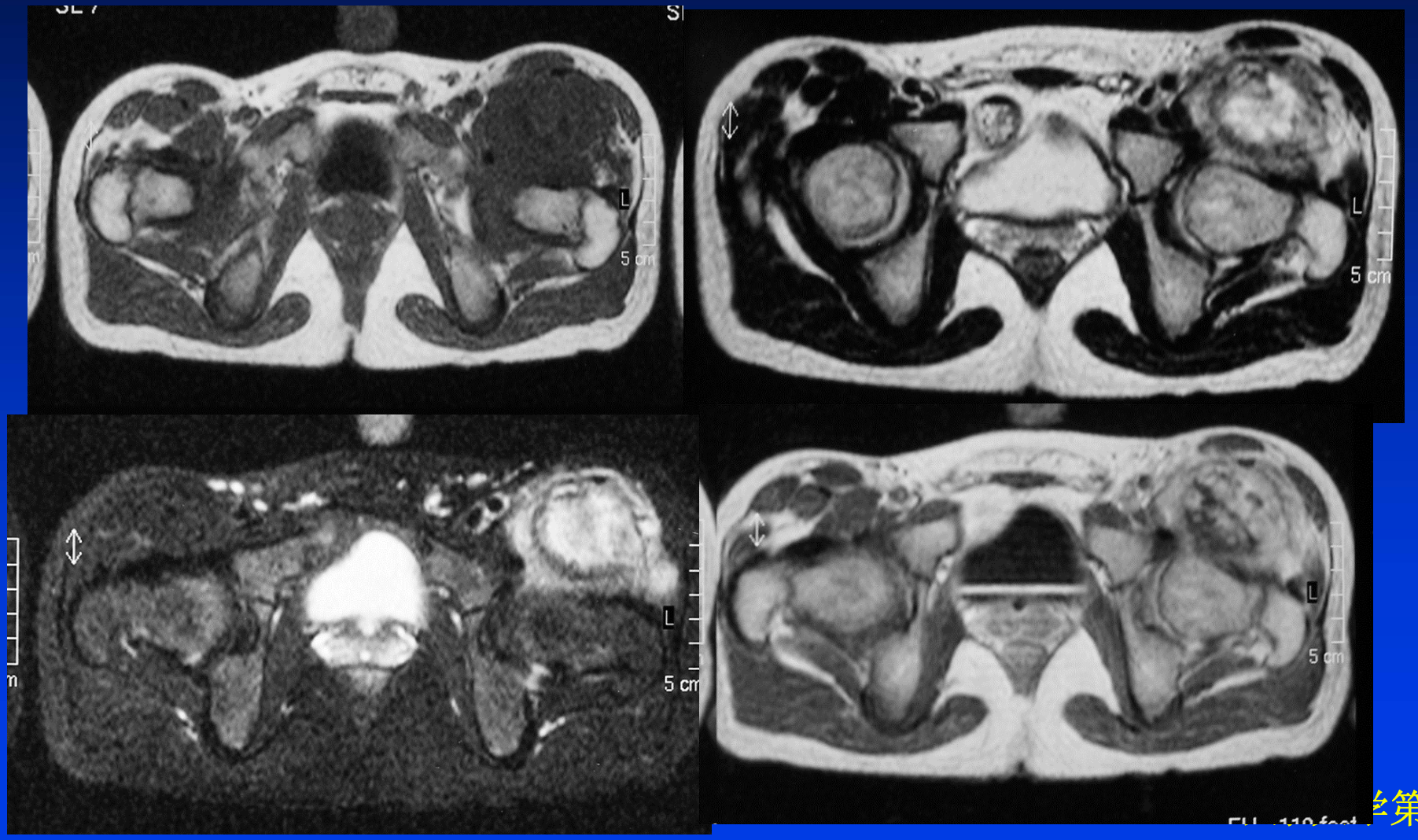
骨化性肌炎（续）



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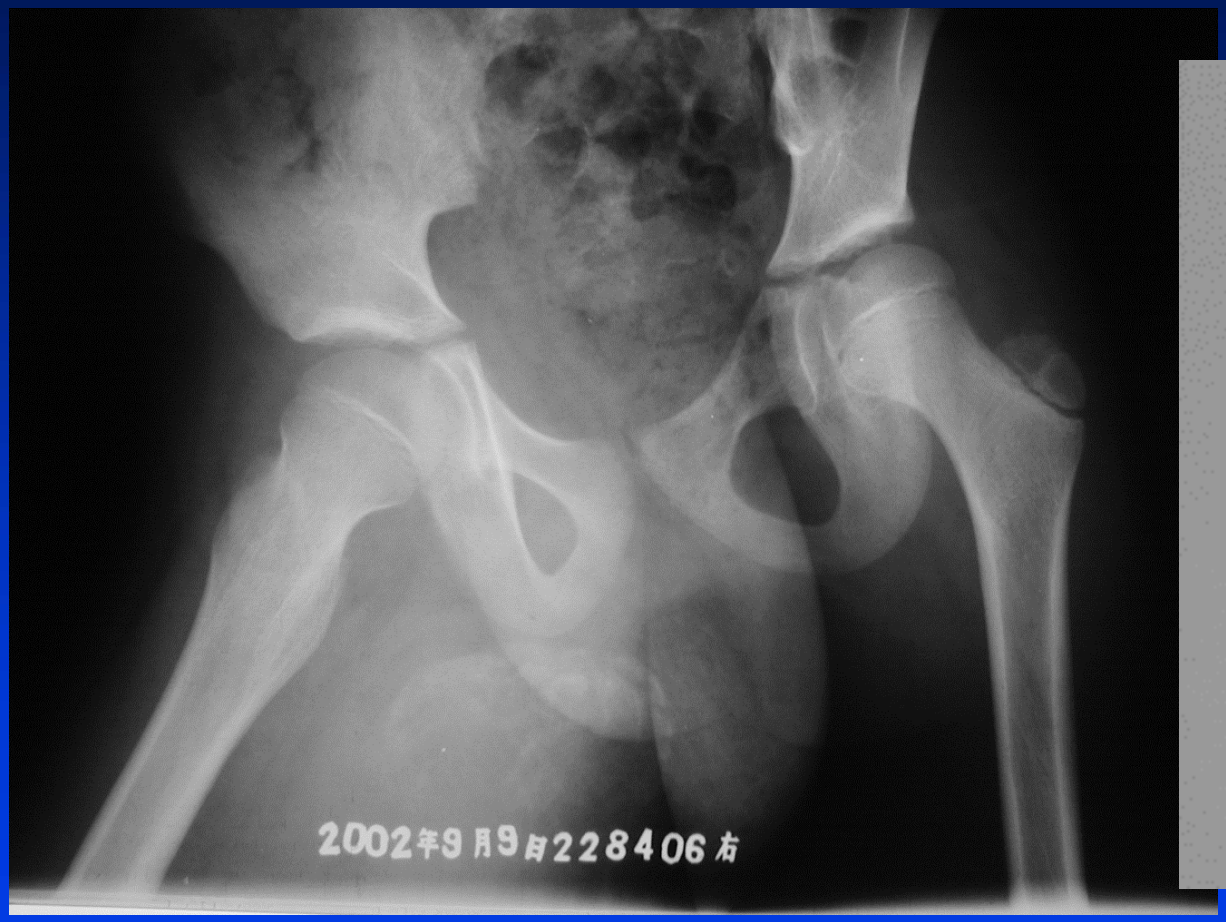
骨化性肌炎



- 男，9岁，坐自行车受伤2周

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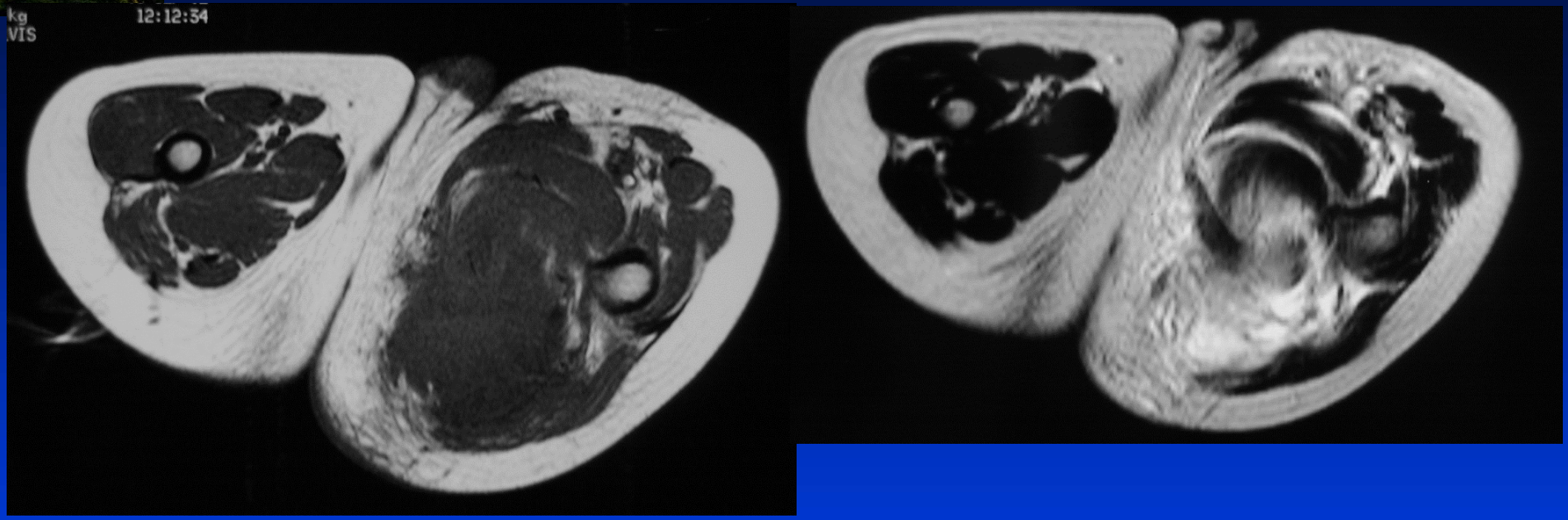
骨化性肌炎（续）



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骨化性肌炎

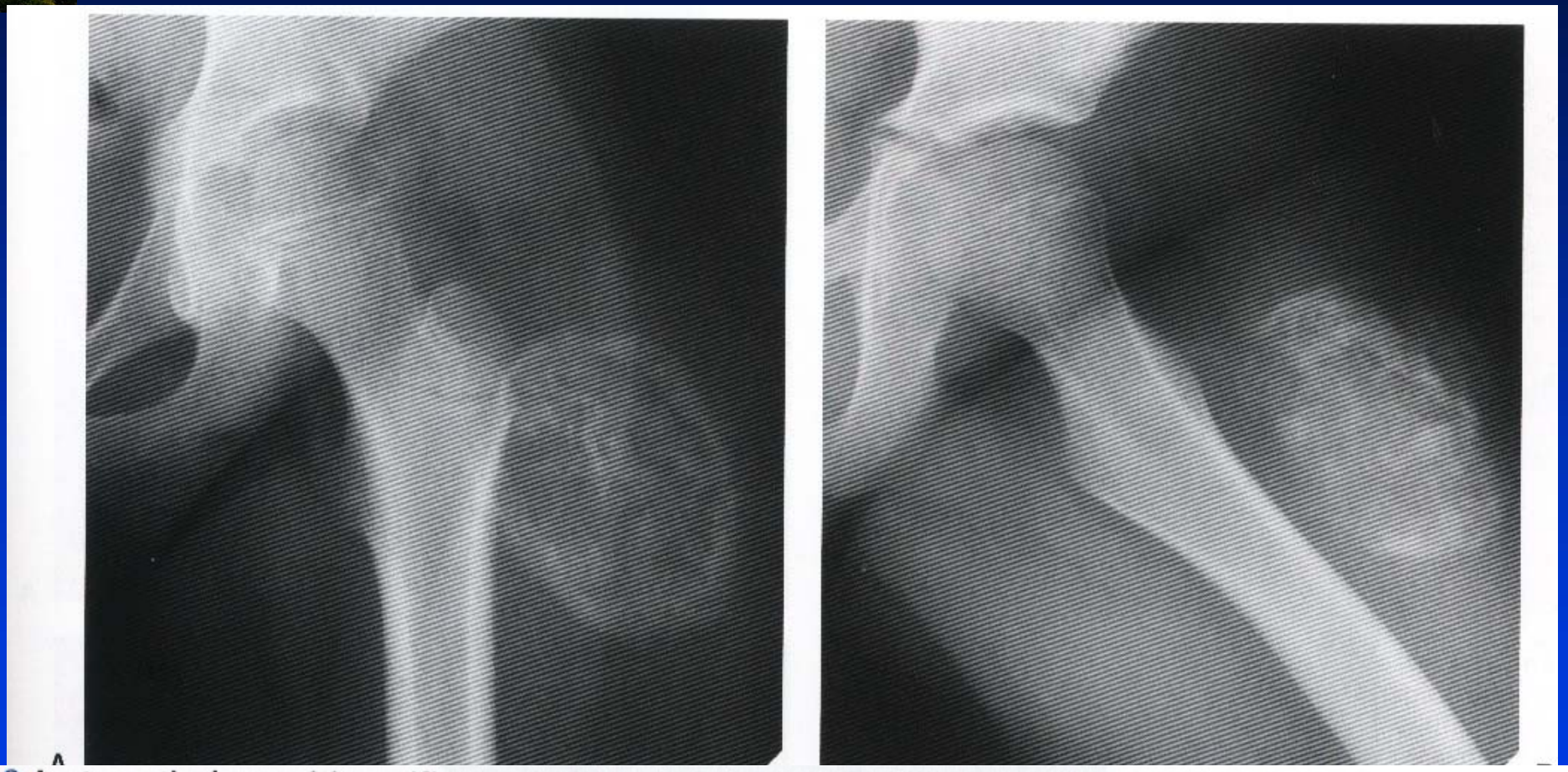

Figure 2-9 **Juxtacortical myositis ossificans. A, B:** Radiographic hallmarks of the lesion include zonal phenomenon: a radiolucent area in the center of the lesion, which indicates immature bone formation, and a dense zone of mature ossification at the periphery. Note also a thin, radiolucent cleft separating the lesion from the adjacent cortex. **C:** Focus of mature post-traumatic myositis ossificans is tightly adherent to the cortex of the left femur (*arrow*). The radiolucent cleft that usually separates the lesion from the cortex is absent. **D:** In another patient with a post-traumatic focus of myositis ossificans that was firmly attached to the cortex, computed tomography (CT) section shows classic zonal phenomenon.

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宽基底骨软骨瘤

Figure 2-8 **Sessile osteochondroma.** Radiographic hallmarks include uninterrupted cortical and medullary continuity between the lesion and the host bone (humerus).

Figure 2-14 **Histopathology of sessile osteochondroma.** Whole-mount section of a sessile lesion shows a cartilaginous cap covered by perichondrium. Broad-based stalk is completely filled with fatty marrow (hematoxylin and eosin).

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骨岛

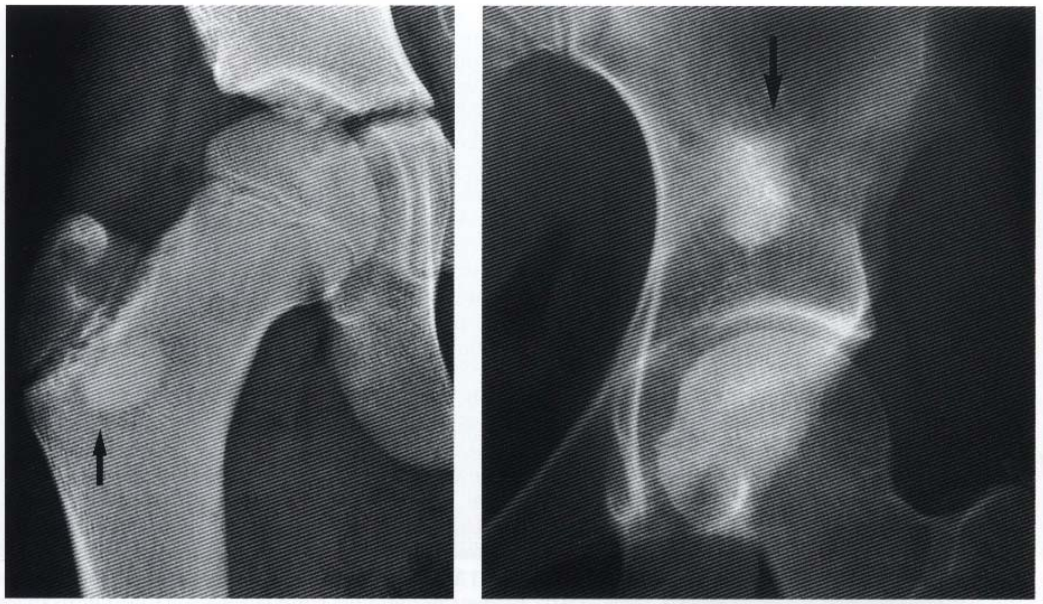

Figure 2-19 **Enostosis (bone island). A:** Anteroposterior radiograph of the right hip of a 10-year-old boy shows a bone island (*arrow*) in the femoral neck. (Reprinted from Greenspan A. *Orthopedic imaging,* 4th ed. Philadelphia: Lippincott Williams & Wilkins, 2004:954, Fig. 33.40.) **B:** Anteroposterior radiograph of the left hip in a 32-year-old woman shows a bone island (*arrow*) in the ilium.

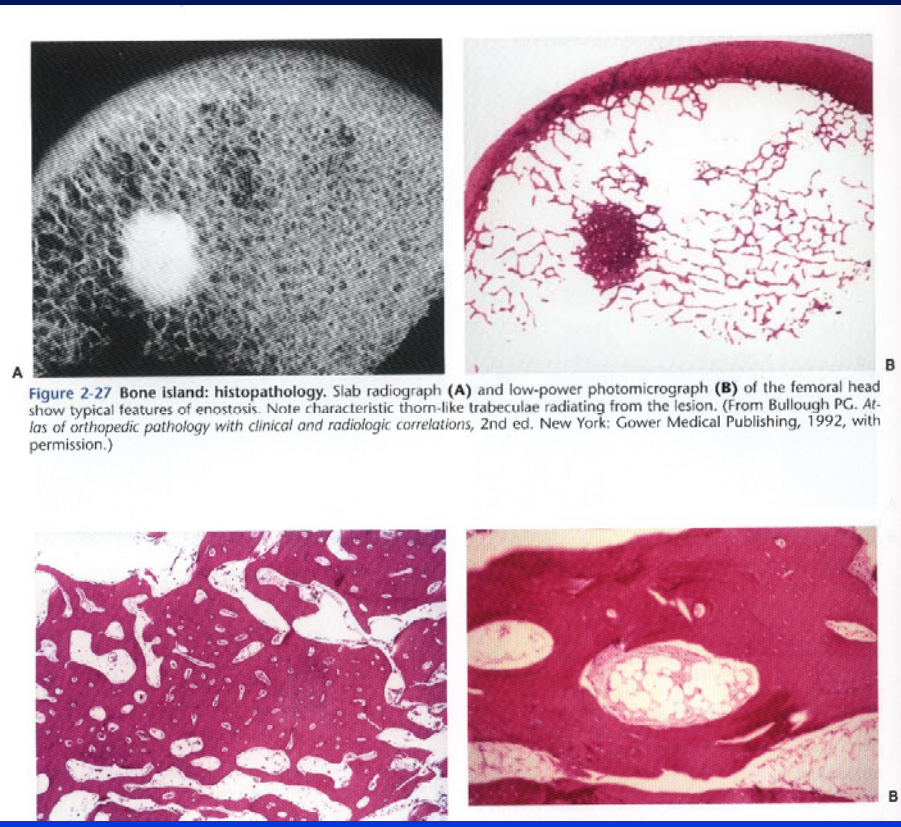

Figure 2-27 **Bone island: histopathology.** Slab radiograph **(A)** and low-power photomicrograph **(B)** of the femoral head show typical features of enostosis. Note characteristic thorn-like trabeculae radiating from the lesion. (From Bullough PG. *Atlas of orthopedic pathology with clinical and radiologic correlations,* 2nd ed. New York: Gower Medical Publishing, 1992, with permission.)

- 骨岛–注意随访

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骨岛

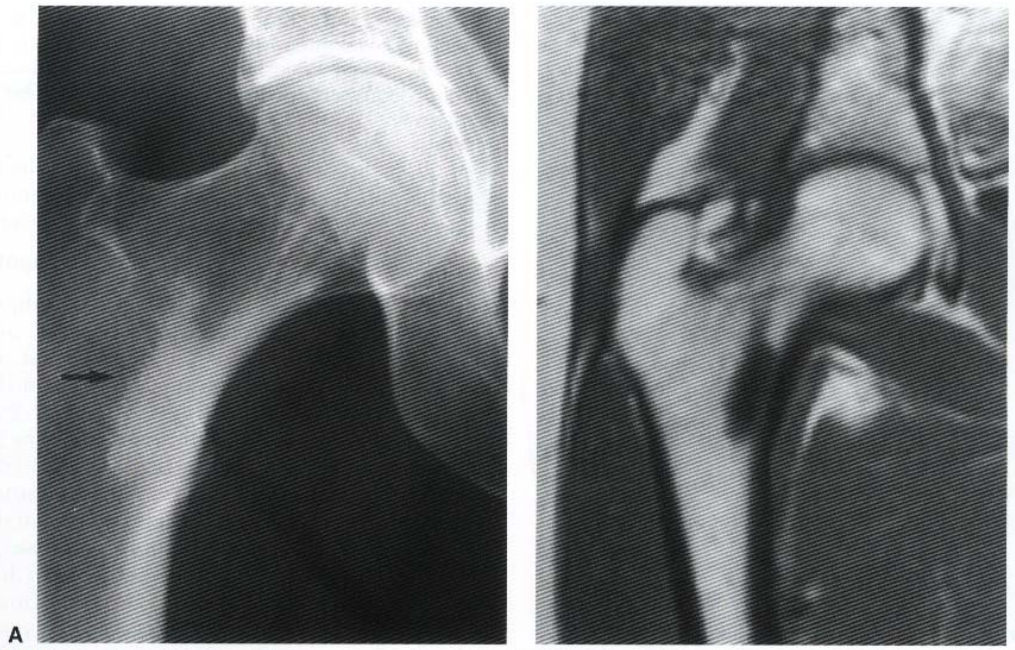
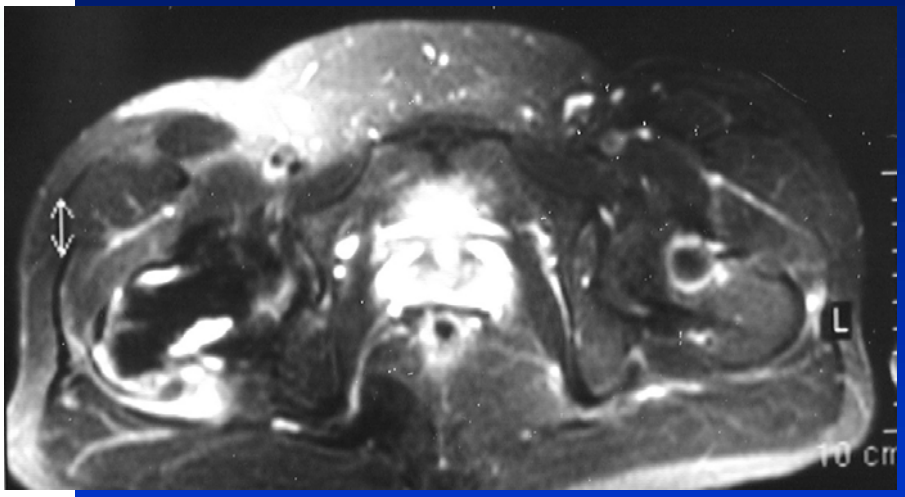


Figure 2-24 **Bone island: magnetic resonance imaging (MRI). A:** Anteroposterior radiograph of the right hip joint shows a typical bone island in the intertrochanteric area (*arrow*). **B:** On coronal spin-echo T1-weighted MRI the lesion exhibits low signal intensity.

- 骨岛



- 转移

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骨岛鉴别诊断

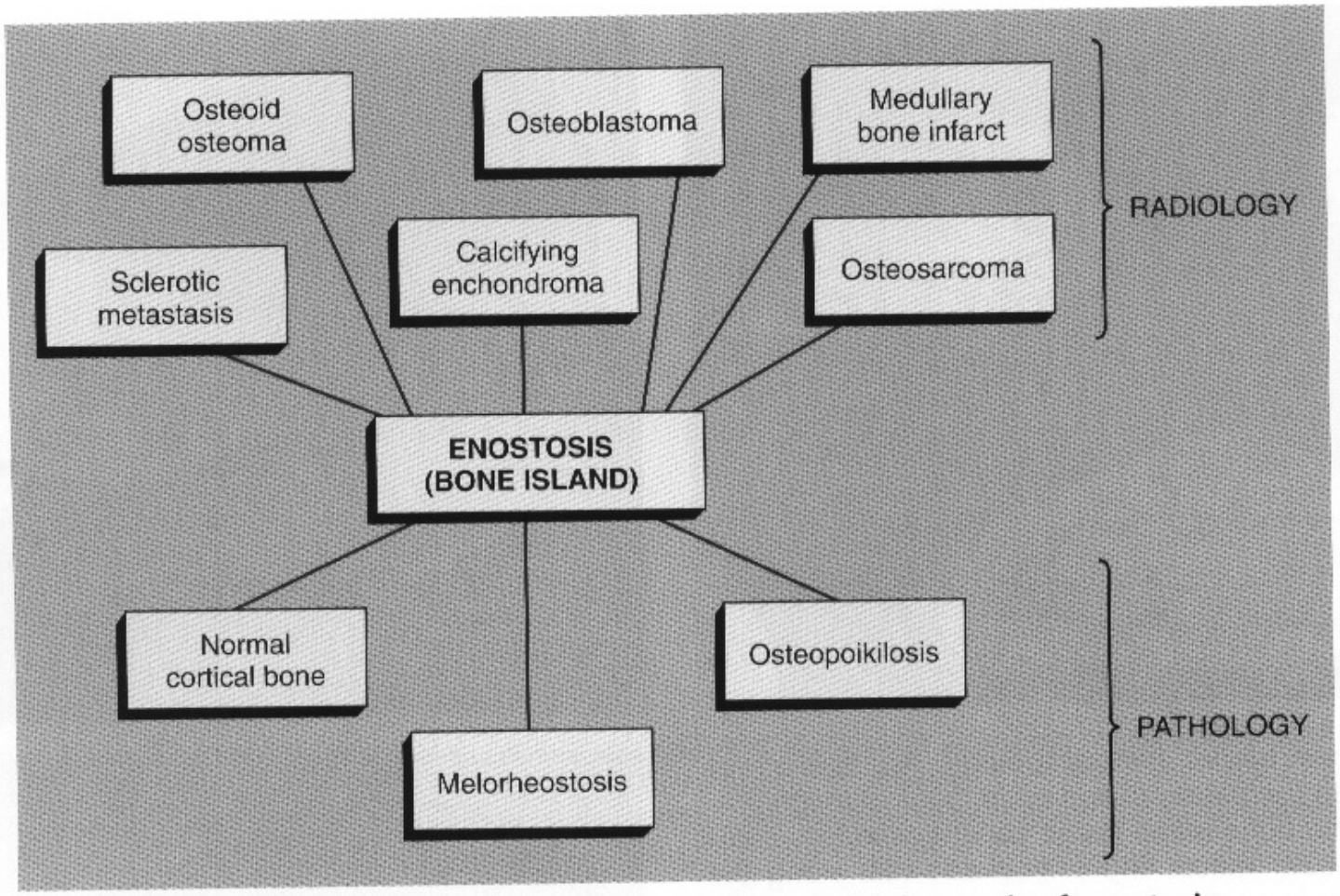


Figure 2-30 Radiologic and pathologic differential diagnosis of enostosis.

骨样骨瘤

- 好发年龄：青少年
- 好发部位：长管状骨皮质
- 临床症状：骨骼的疼痛，尤其或休闲时明显，服用阿斯匹林有效
- 病理分型：皮质骨型，松质骨

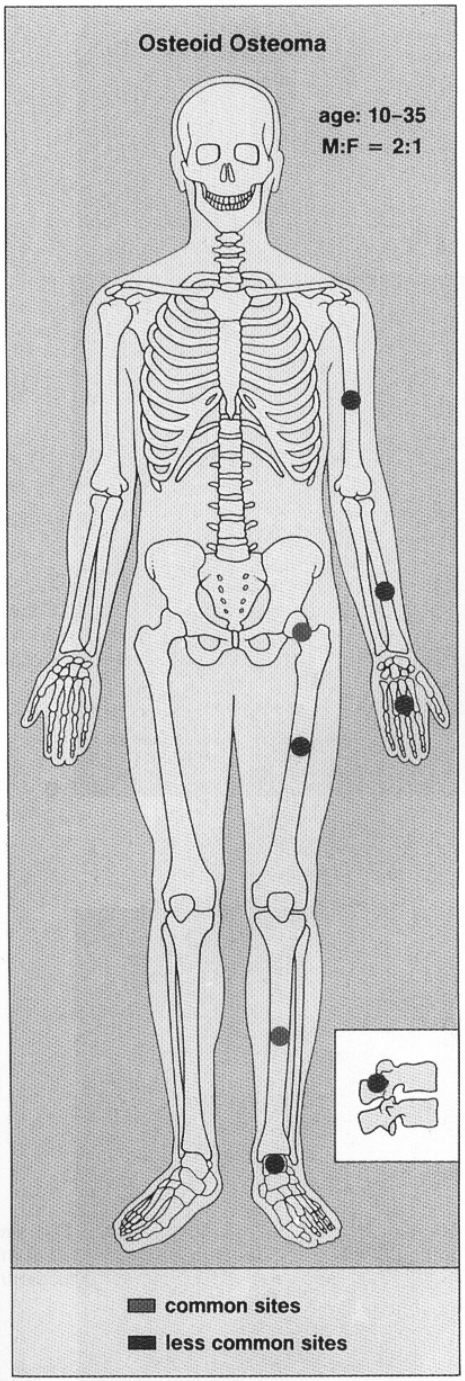
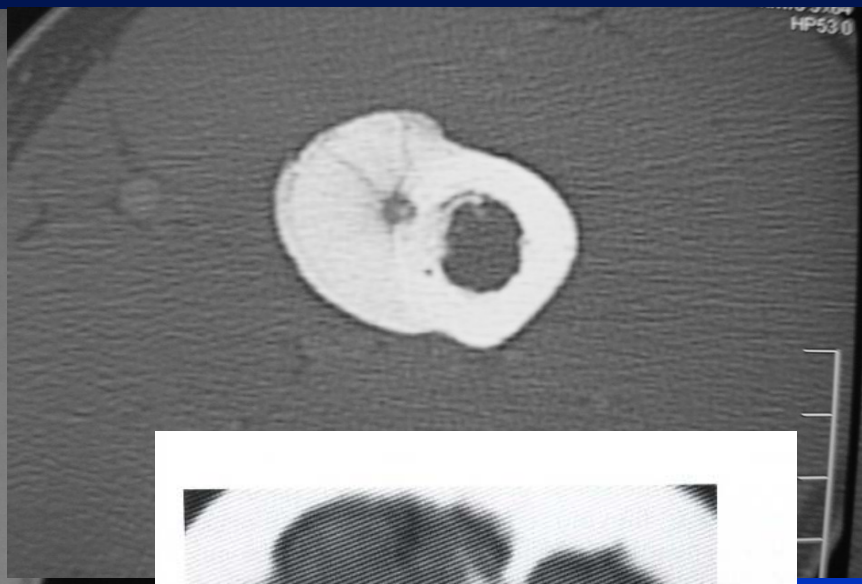


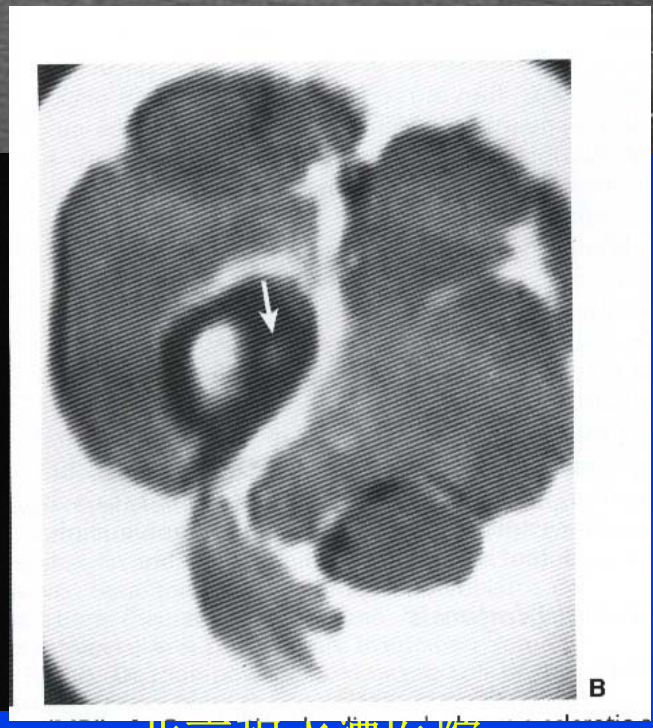
Figure 2-31 Osteoid osteoma: skeletal sites of predilection, peak age range, and male-to-female ratio.

影像表现

- 皮质型：长骨皮质内低密度透亮区，可见点状钙化，直径小于2厘米，伴广泛硬化和皮质增厚。
- 松质骨型：松质骨内低密度灶，硬化不显著。
- CT：能清晰显示瘤巢及钙化
- MRI：病灶表现多样，特异性不强，但可更好显示软组织及关节内的炎性改变。

骨样骨瘤





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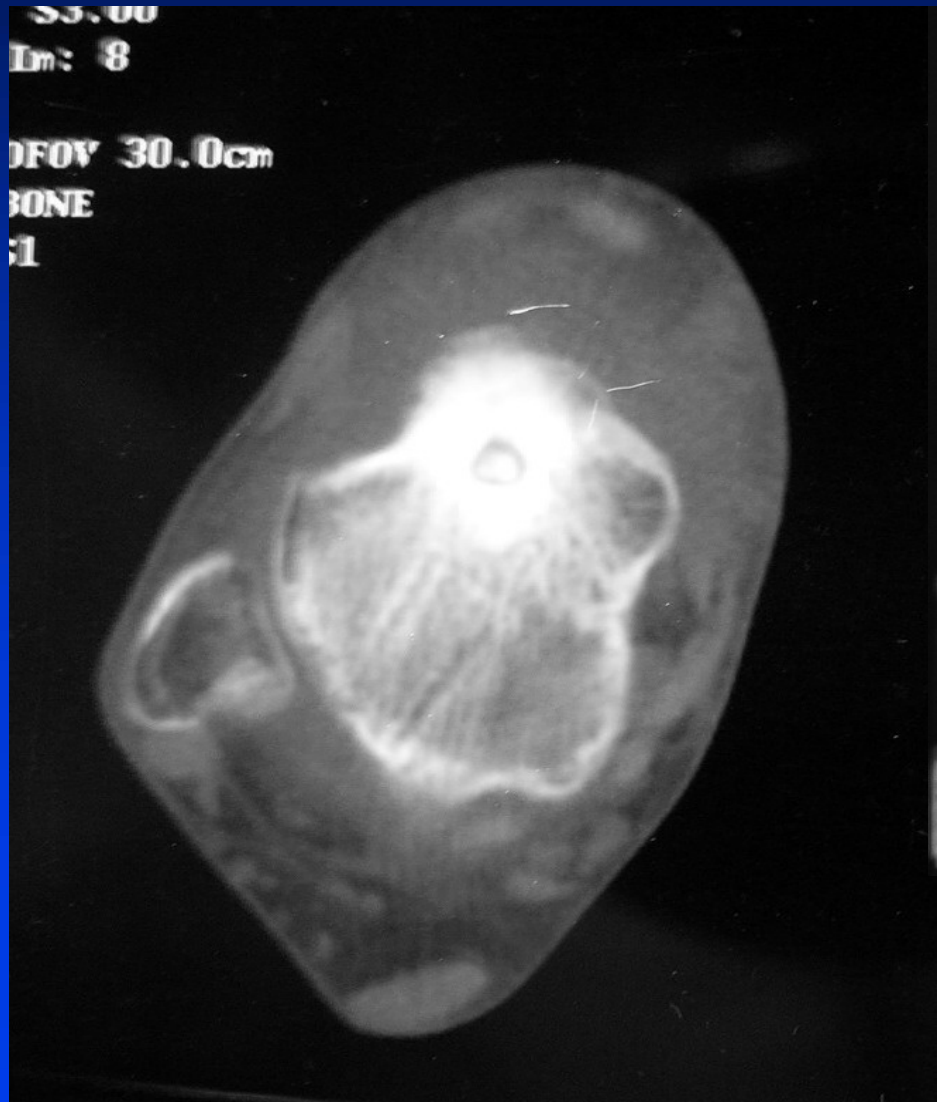

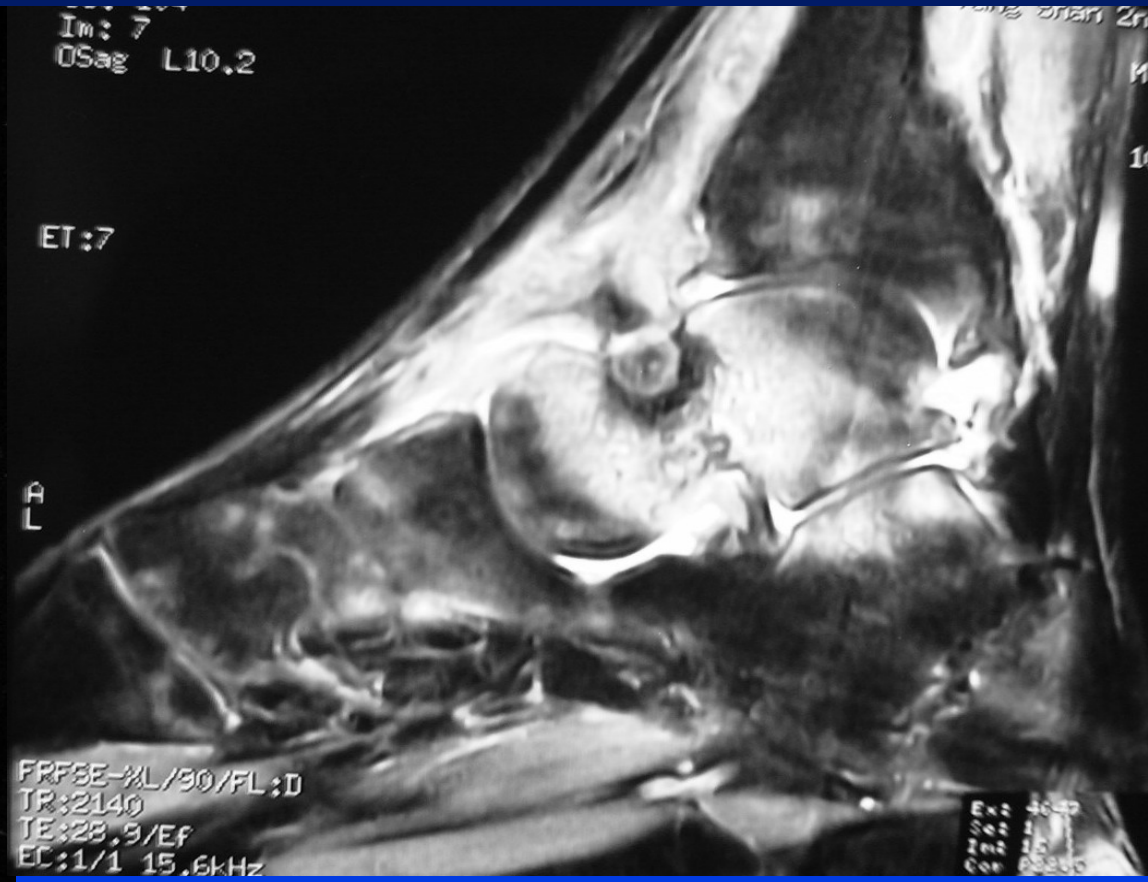

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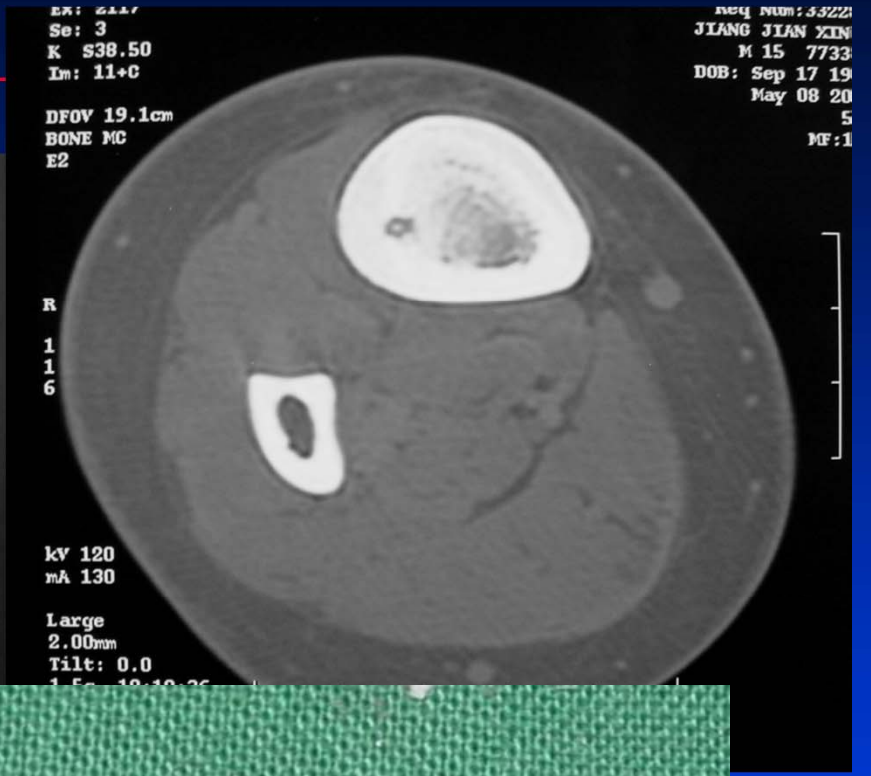
骨样骨瘤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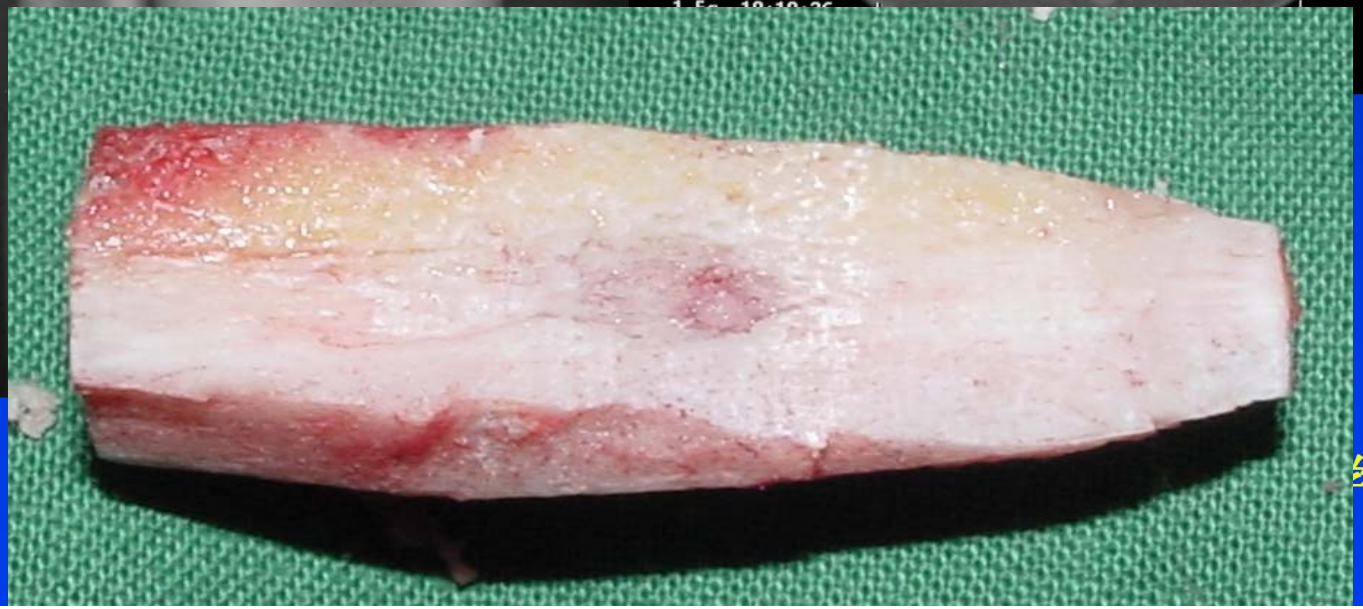
K S38.50
Im: 11+C
DFOV 19.1cm
BONE MC
E2
R
kV 120
mA 130
Large
2.00mm
Tilt: 0.0
JIANG JIAN XIN
M 15
DOB: Sep 17 19
May 08 20



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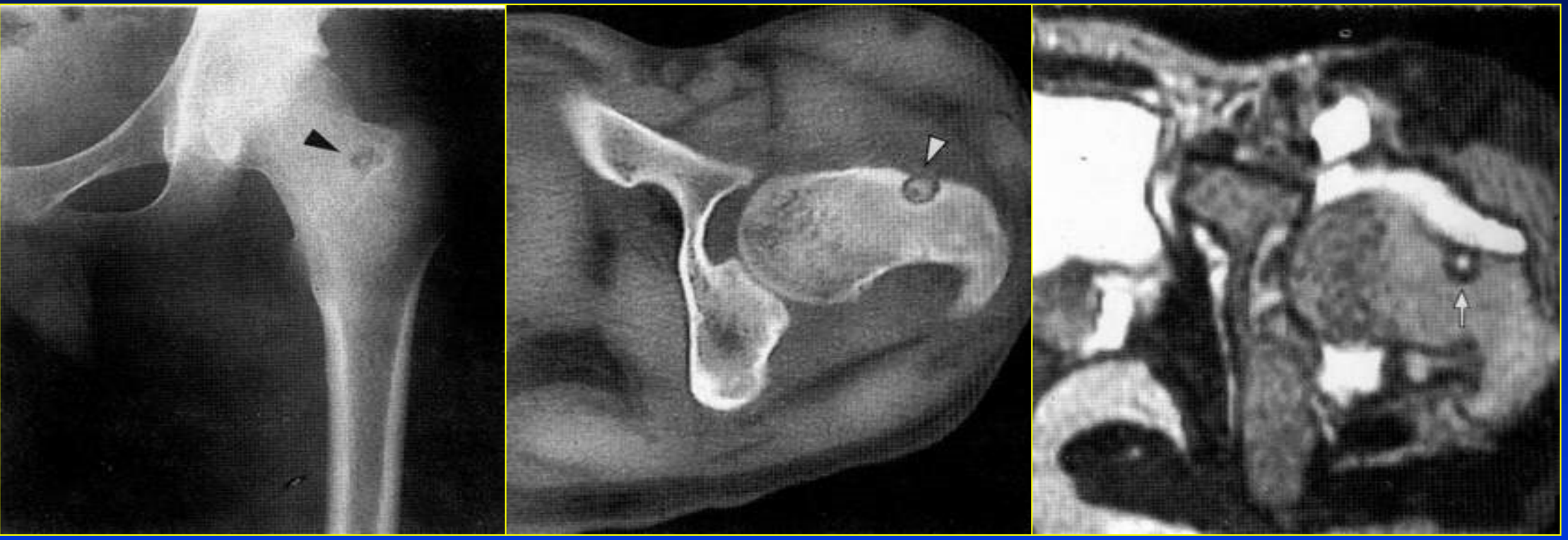

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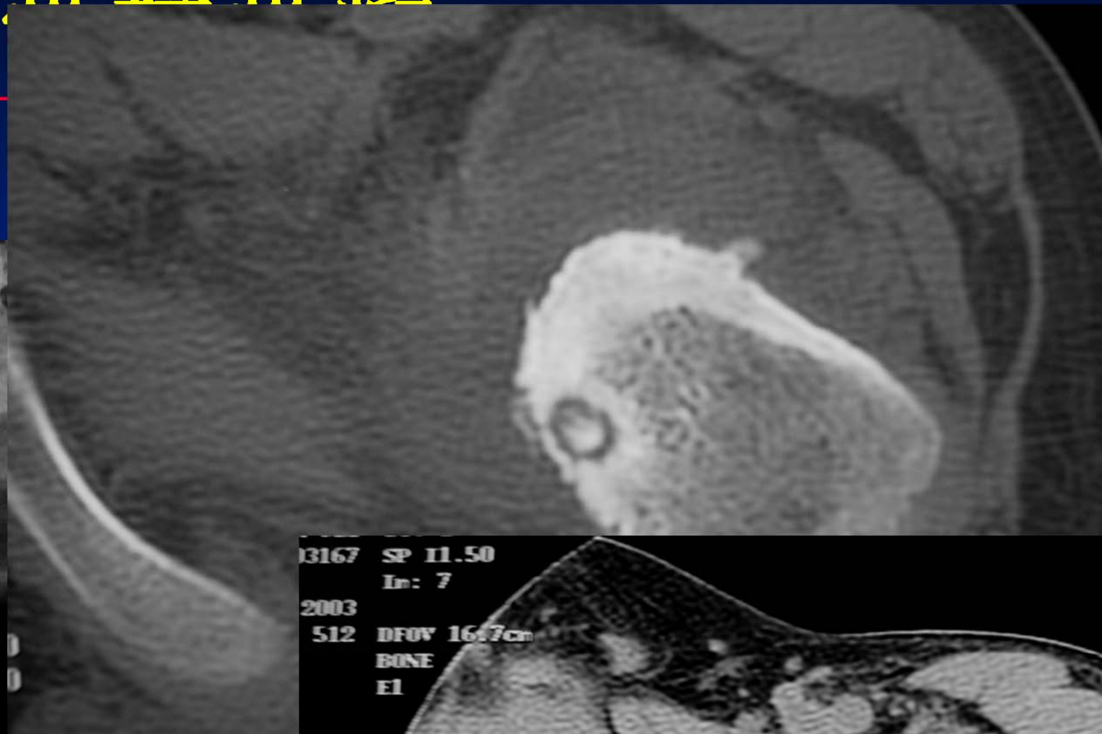


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2003
512 DFOV 16.7cm
BONE
E1
kV 120
mA 130
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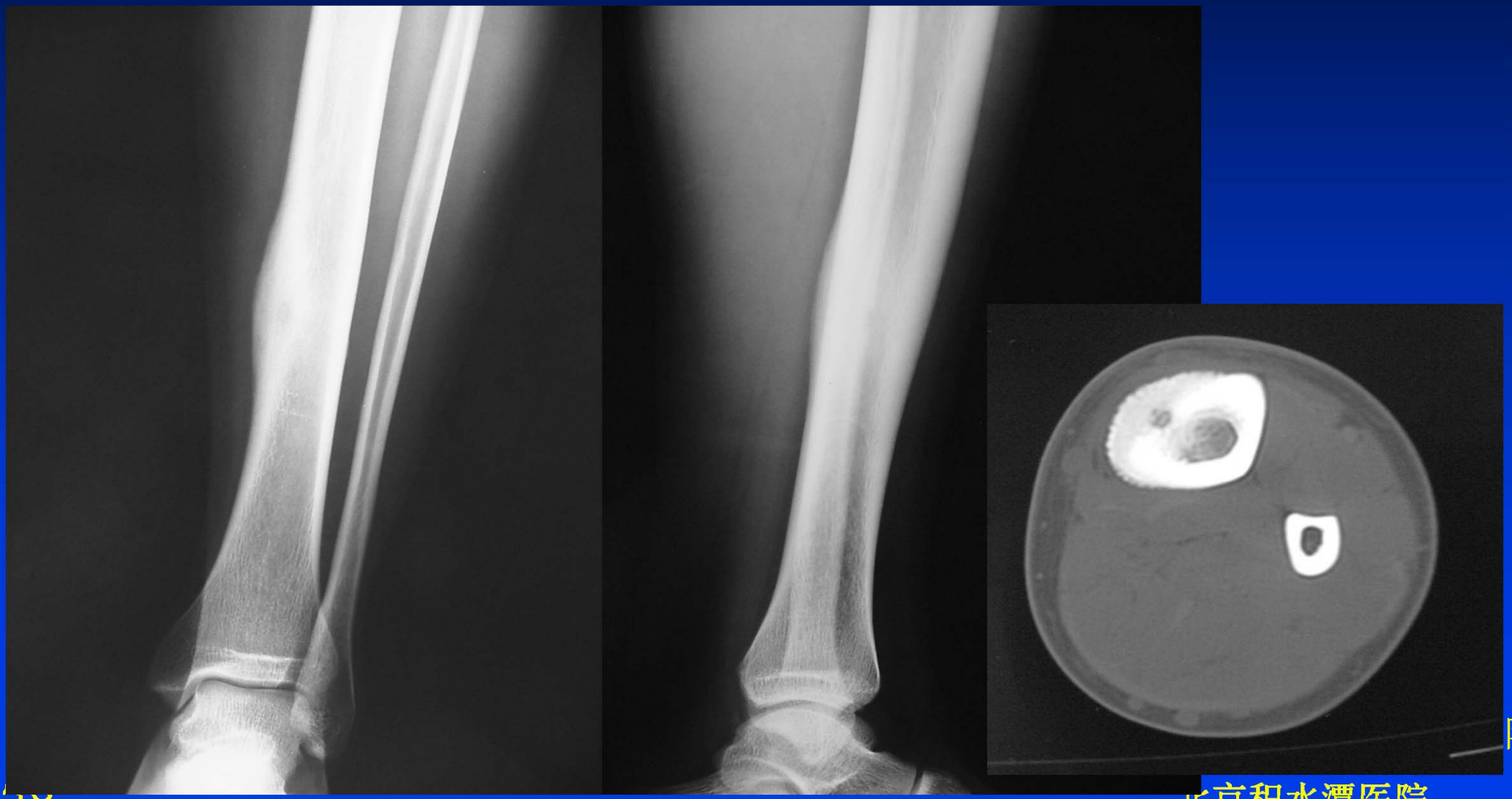
骨样骨瘤



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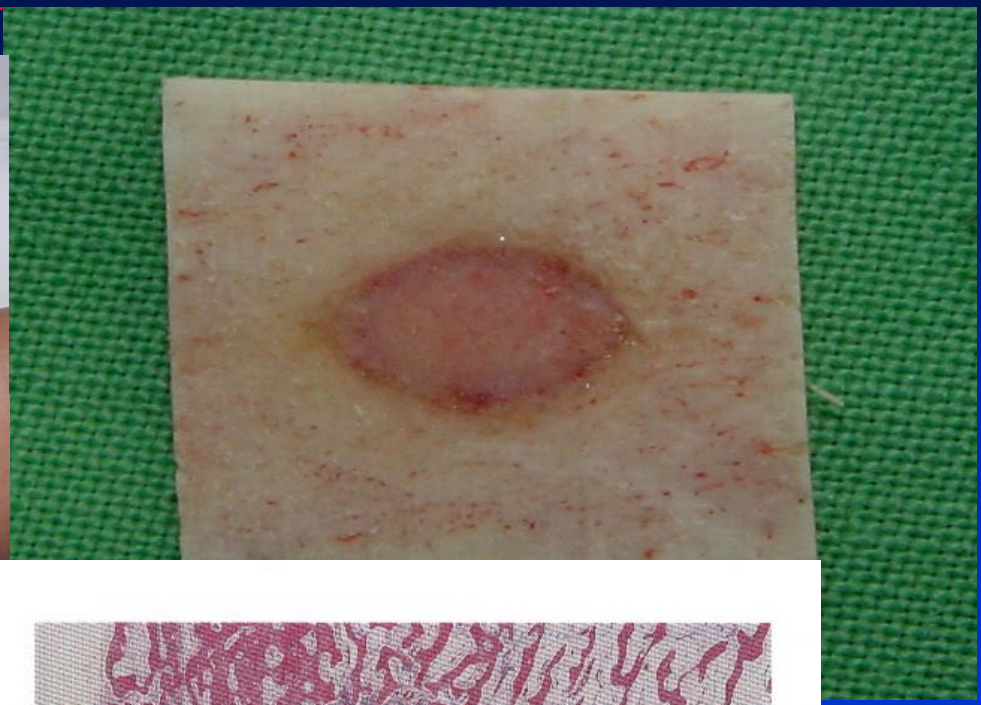

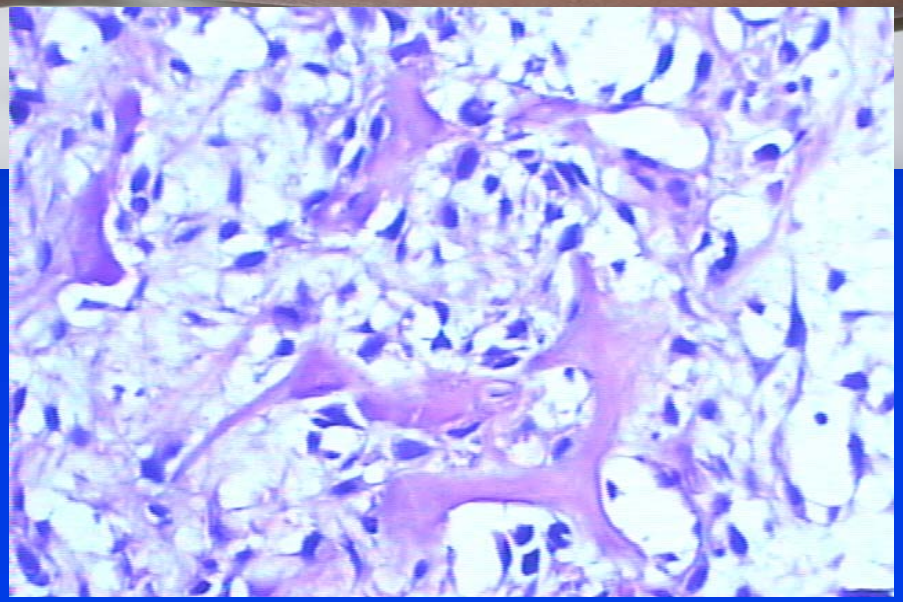

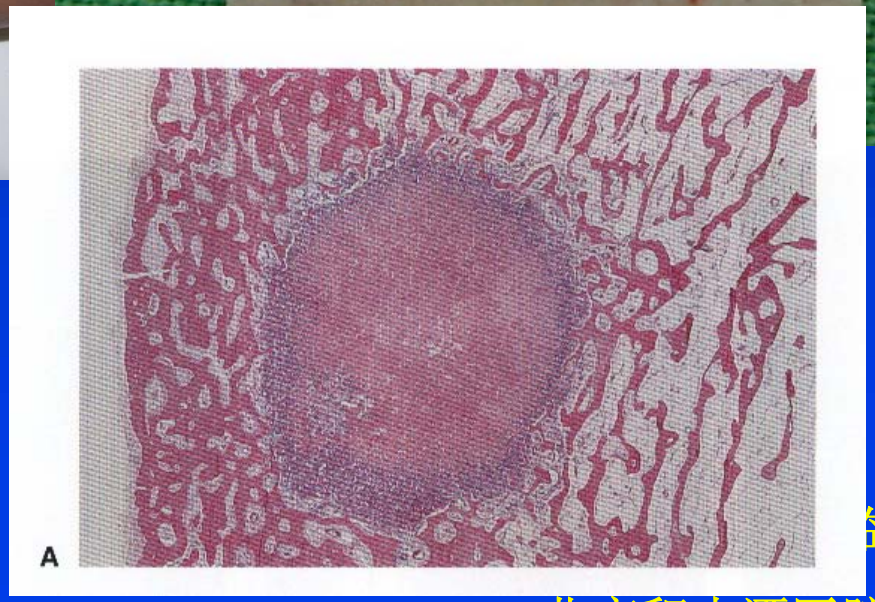

颈椎骨样骨瘤-与骨母细胞瘤区别

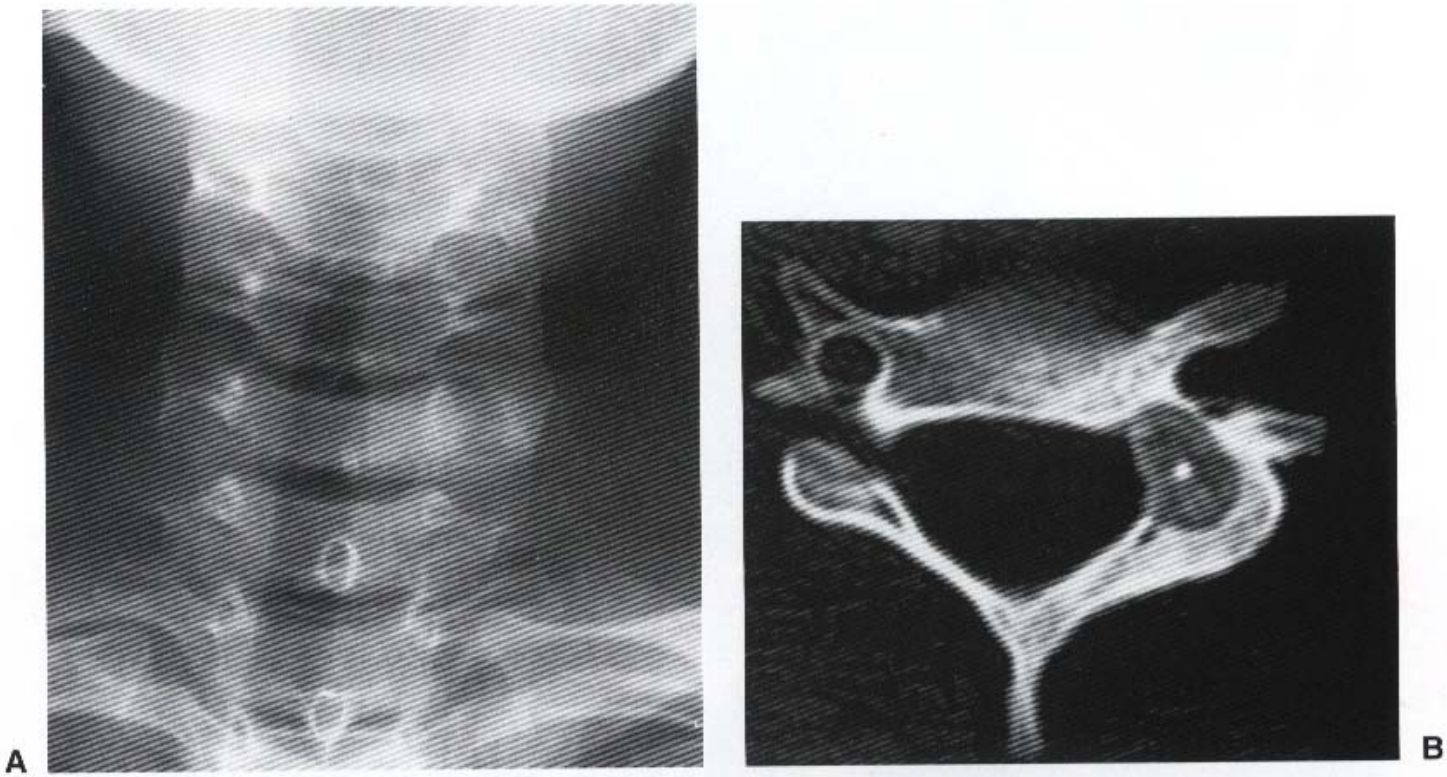

Figure 2-39 **Osteoid osteoma: computed tomography** (CT). **A:** Radiograph of the cervical spine does not clearly demonstrate the suspected lesion of osteoid osteoma. **B:** CT section through C6 shows a low-attenuation nidus with a sclerotic center, located in the left pedicle and extending into the lamina. (Reprinted with permission from Greenspan A. Benign bone forming lesions: osteoma, osteoid osteoma, and osteoblastoma. *Skeletal Radiol* 1993;22:492.)

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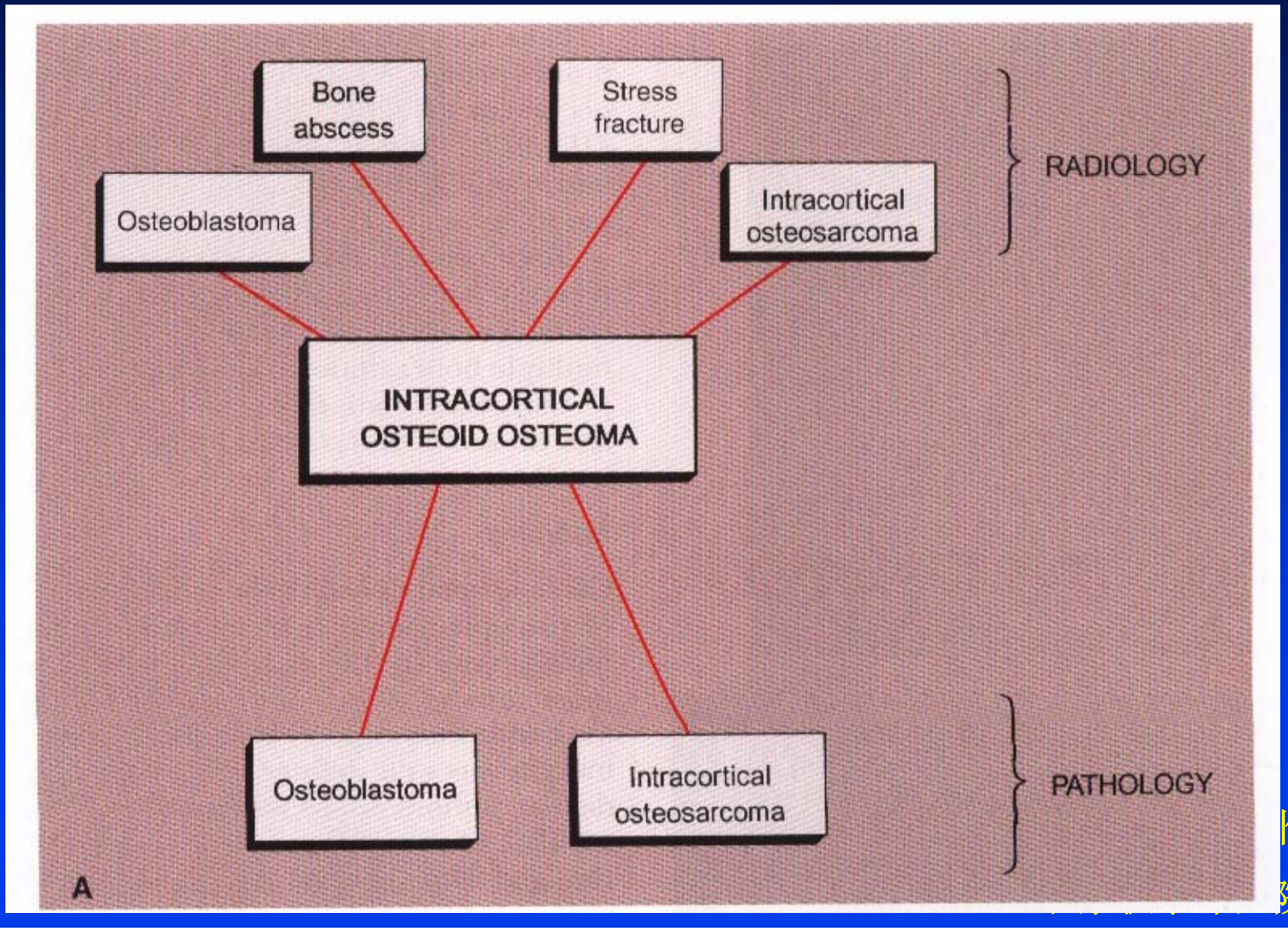
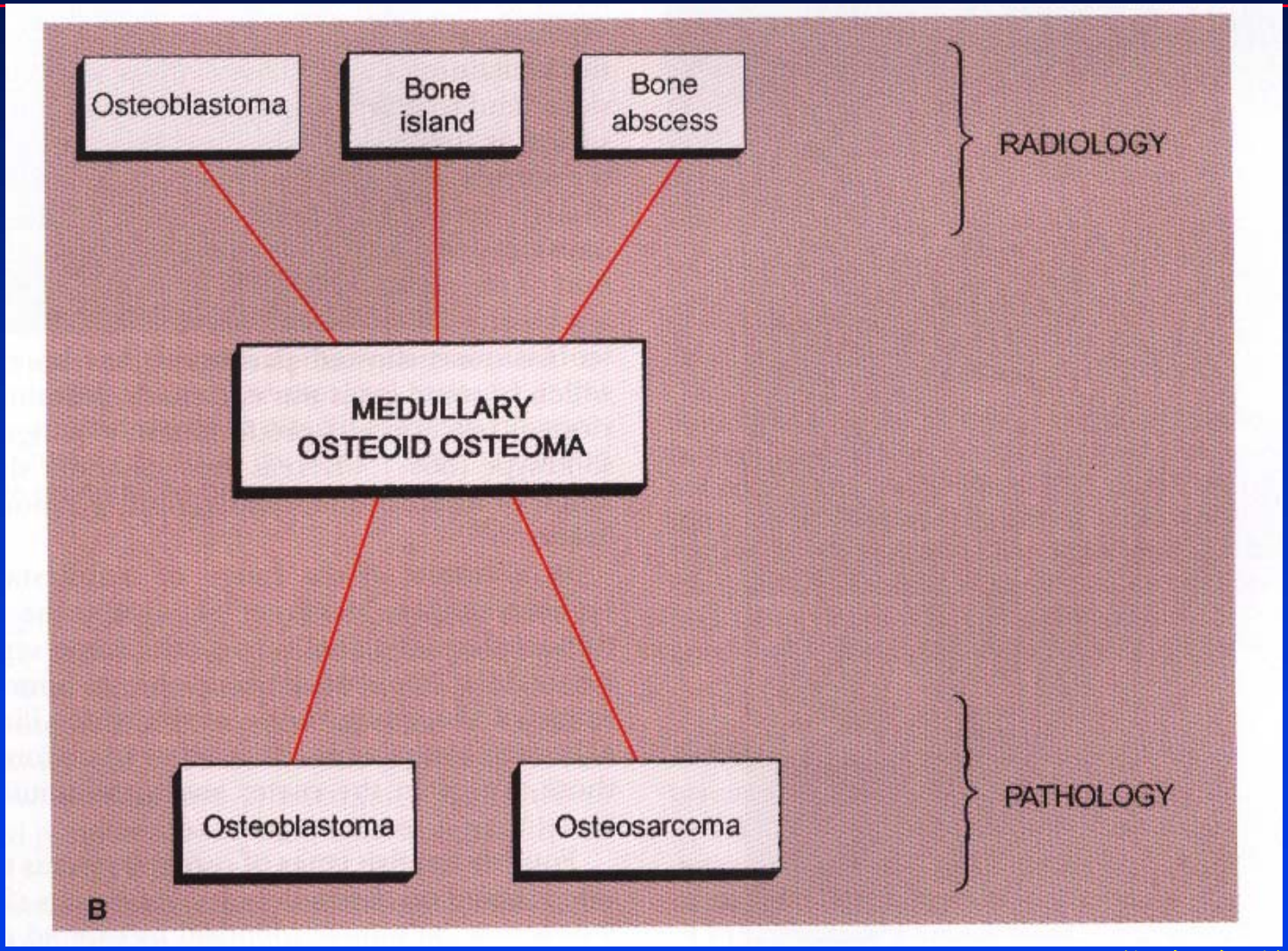
皮质型鉴别


Bone abscess
Stress fracture
Osteoblastoma
Intracortical osteosarcoma
RADIOLOGY
INTRACORTICAL OSTEOID OSTEOMA
Osteoblastoma
Intracortical osteosarcoma
PATHOLOGY
A

松质型鉴别



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疲劳骨折

男，13岁，右小腿疼痛一年余。

男40岁

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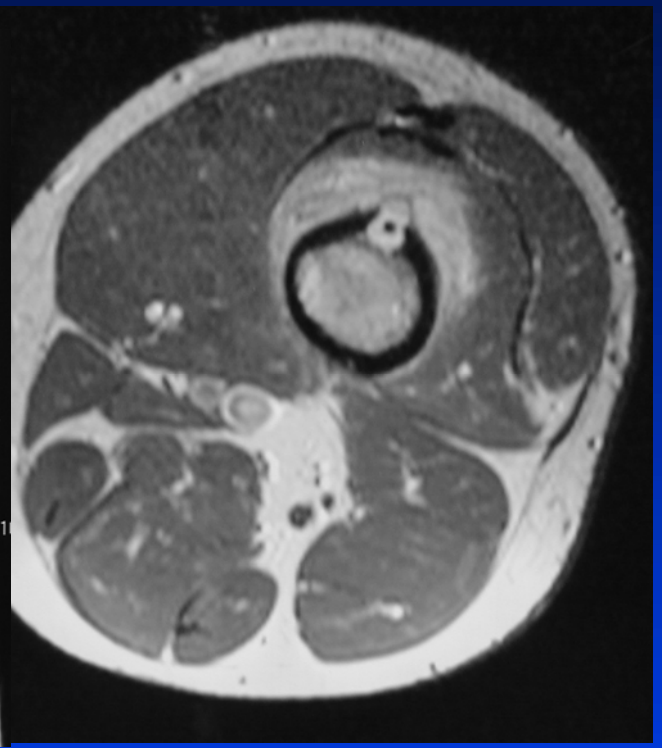
骨皮质脓肿



- 男，19，感染

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骨母细胞瘤

- 良性的少见肿瘤。
- 好发部位在椎体附件（40%），长骨（30%）。
- 病理组织学：丰富的骨母细胞伴类骨组织。与骨样骨瘤相似。
- 发病年龄：80%在30岁以下。

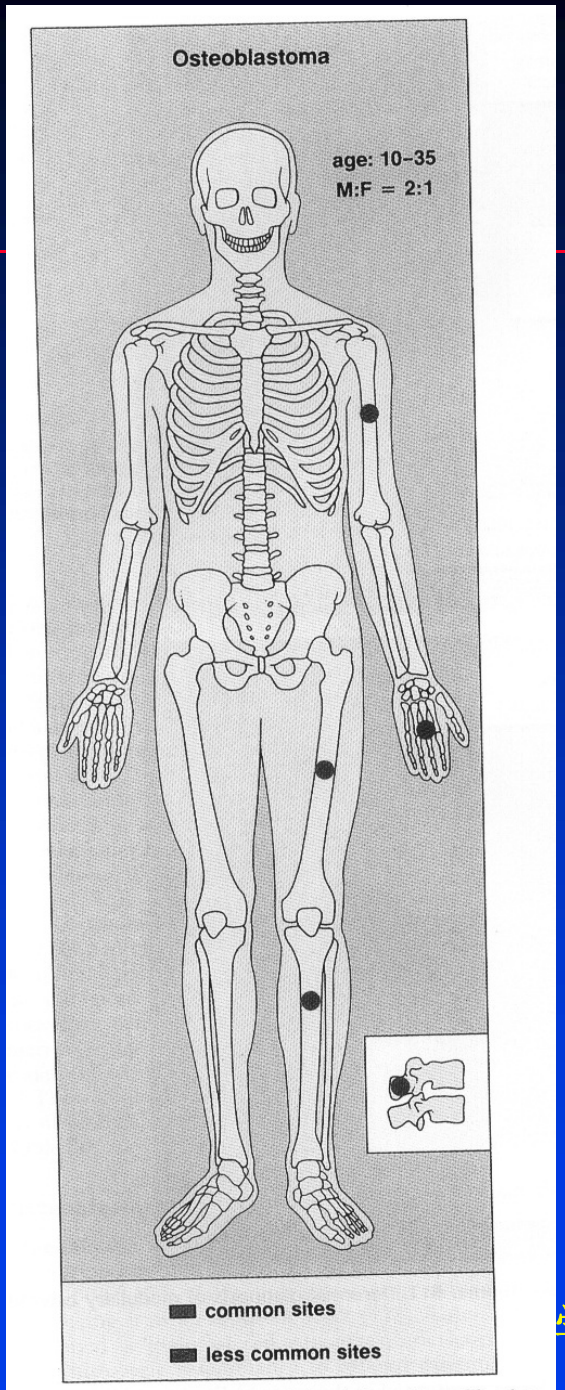

Figure 2-52 Osteoblastoma: skeletal sites of predilection, peak age range, and male-to-female ratio.

学院

骨母细胞瘤

- X线：脊椎或附件上呈膨胀性，偏心囊性透亮区，瘤巢大于2厘米，肿瘤可穿破皮质伸入软组织，形成肿块。周围骨质硬化。
- 病灶内在晚期可出现点状钙化或骨化（50%）。

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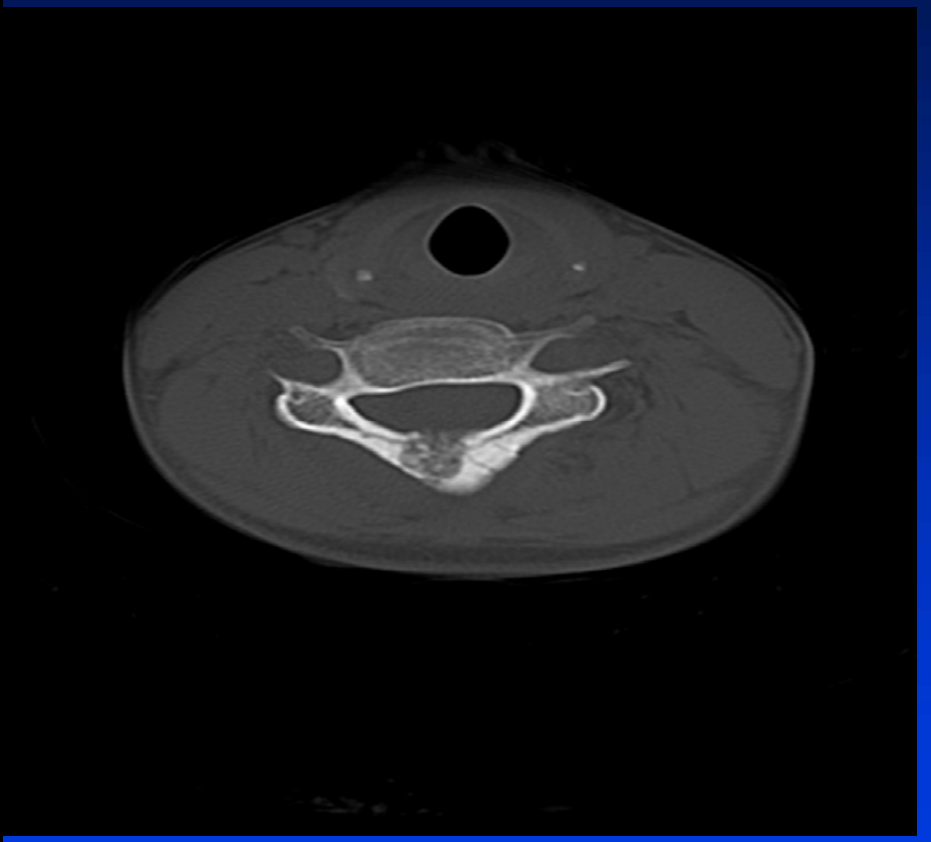
骨母细胞瘤



- 女，16岁，颈椎后突伴疼痛半年余

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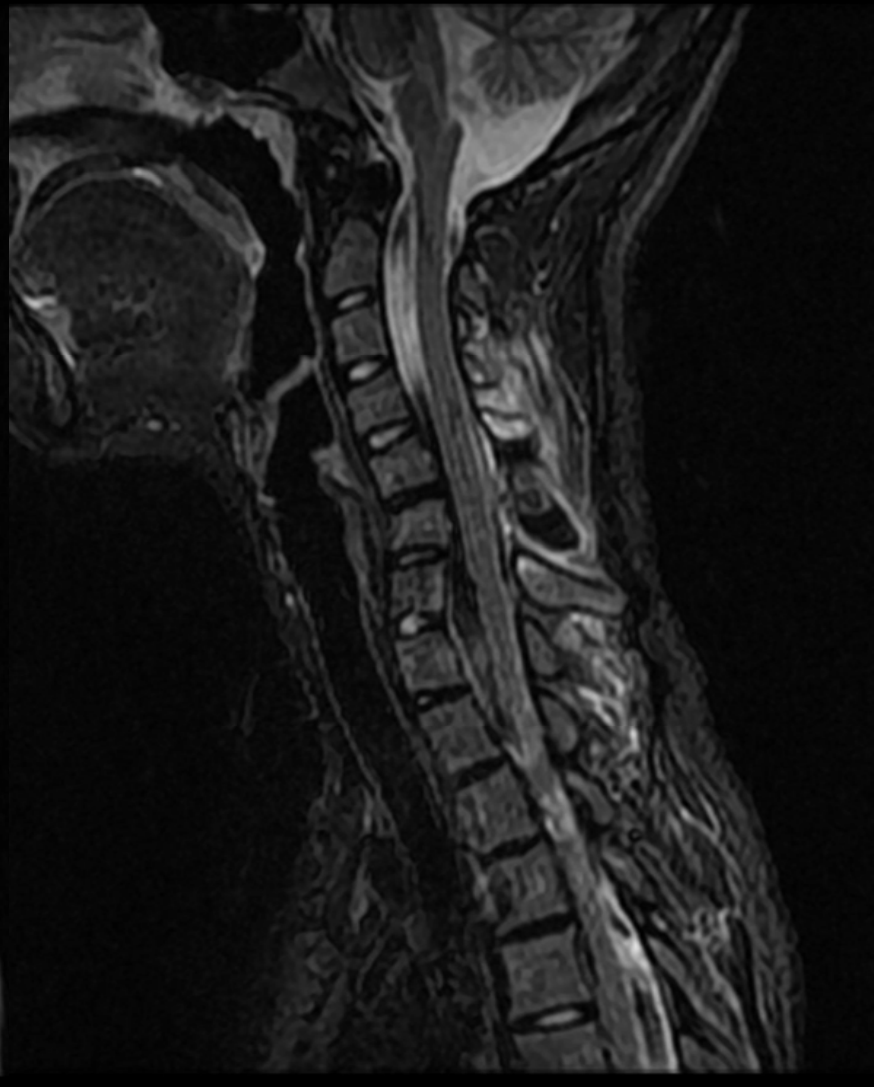
骨母细胞瘤



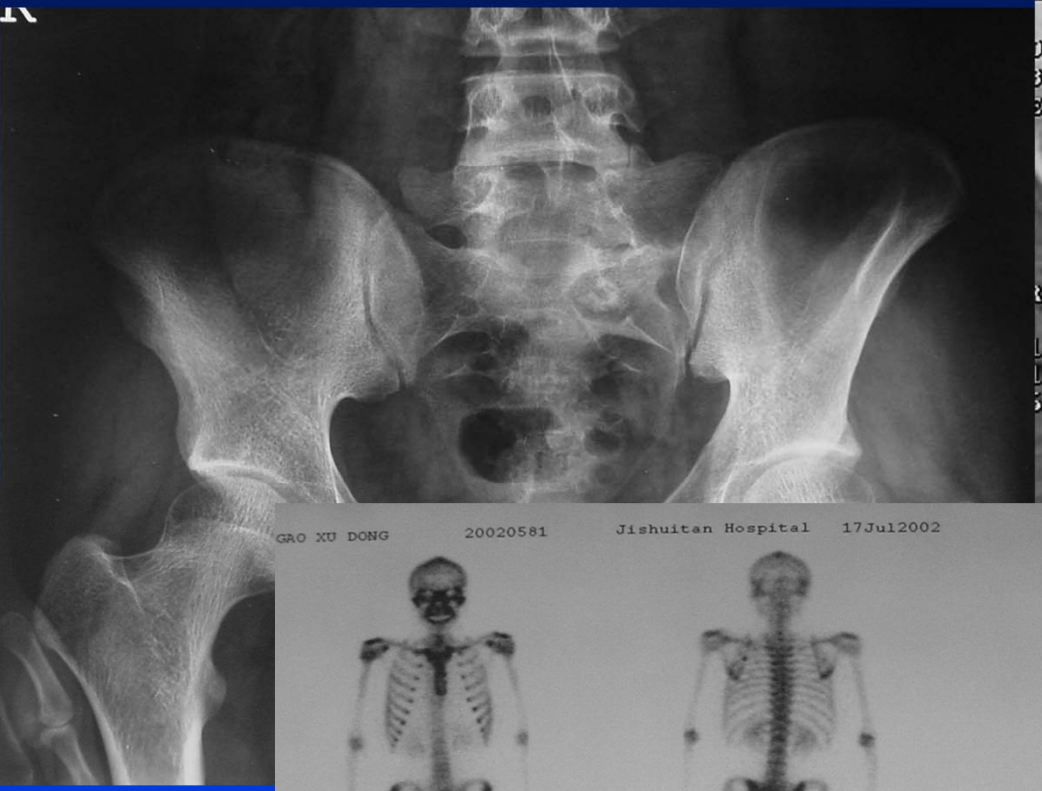
骨

临床学院

院

骨盆

骨母细胞瘤



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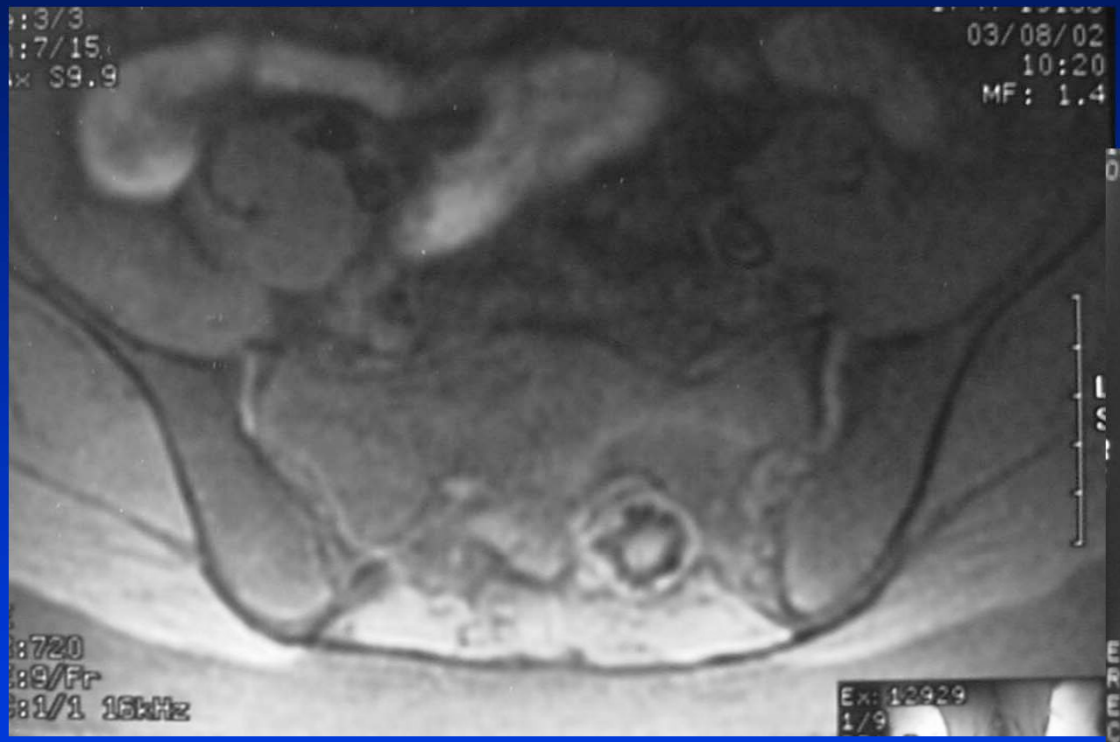
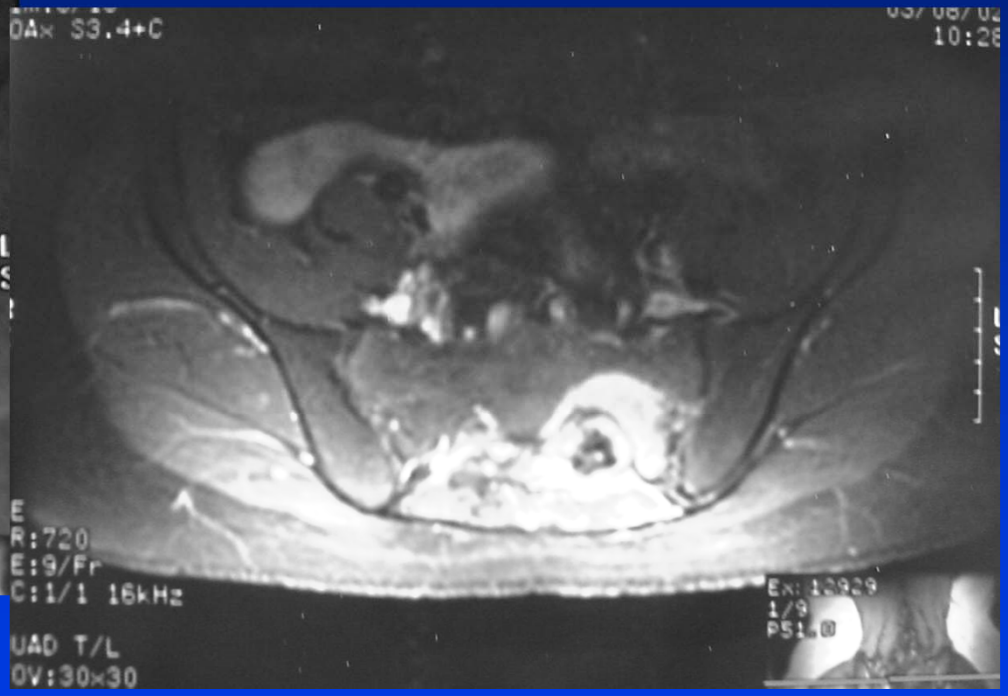
骨母细胞瘤





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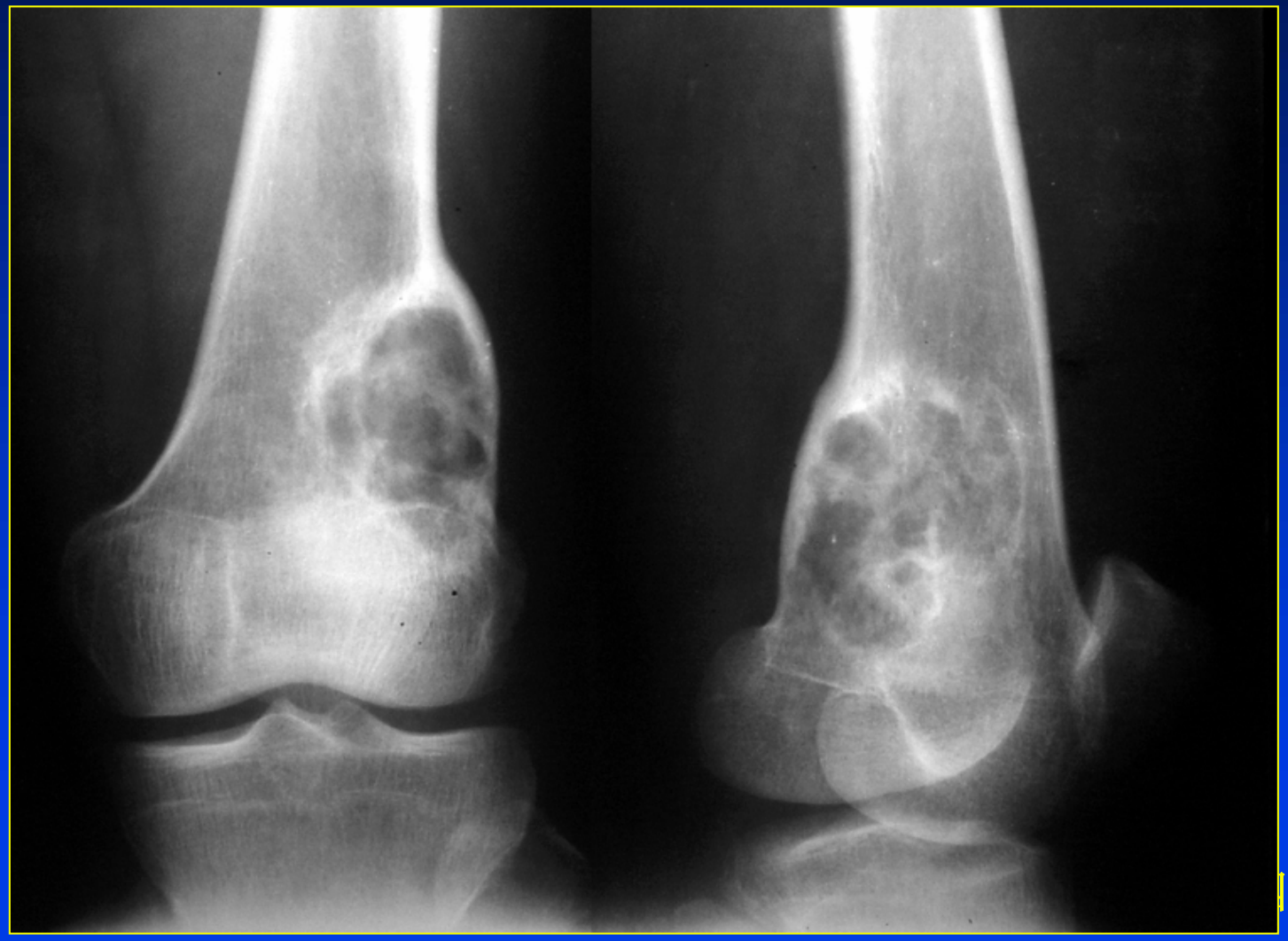
骨母细胞瘤



骨母细胞瘤-组织学

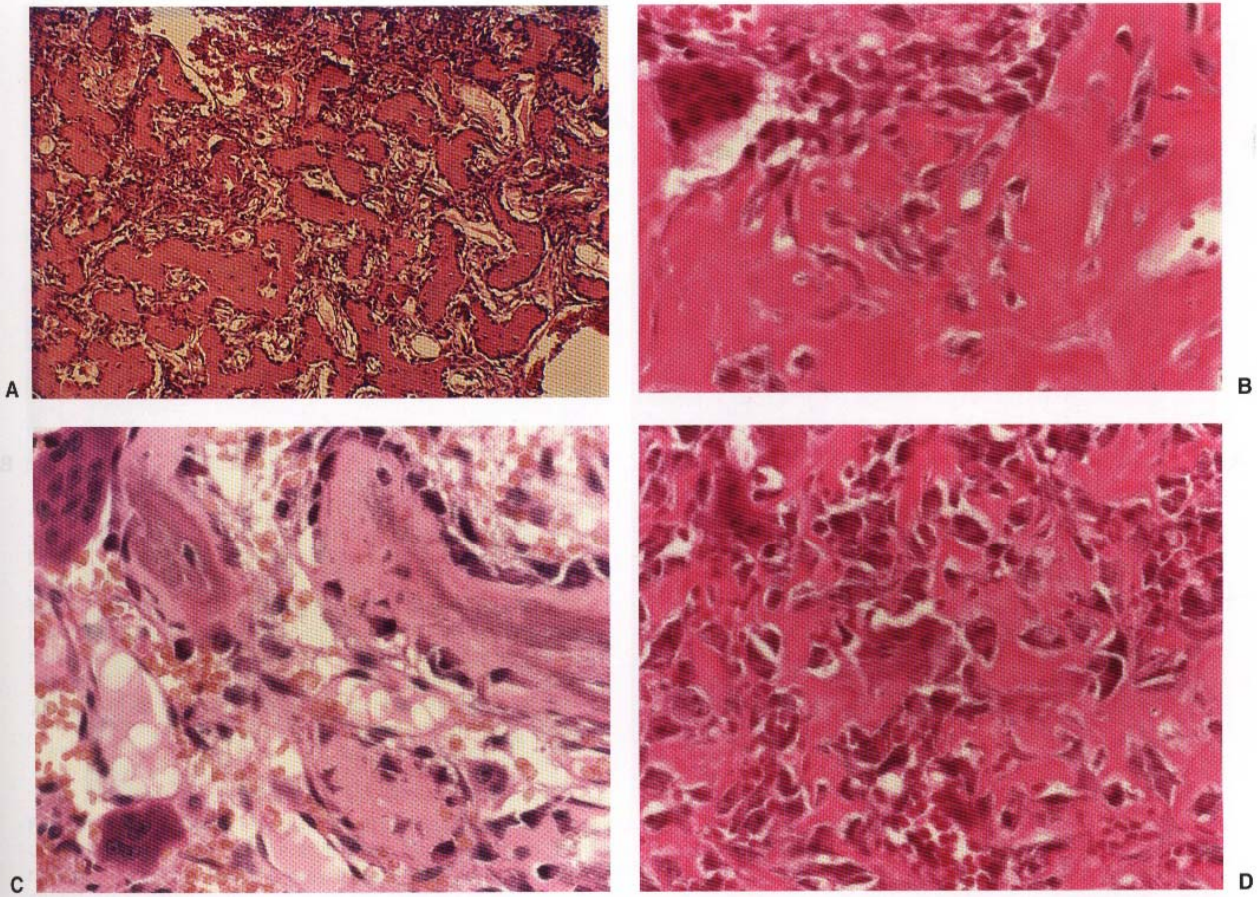


Figure 2-64 **Histopathology of osteoblastoma. A:** Densely arranged small trabeculae made up of woven bone are surrounded by osteoblasts. In the narrow marrow spaces, some capillaries and giant cells of the osteoclast type are seen. These features, together with very regular appearing bone formation, militate against the diagnosis of osteosarcoma (hematoxylin and eosin, original magnification ×25). **B:** Osteoblastoma shows woven bone formation in plates rimmed with densely arranged osteoblasts and giant cells of the osteoclast type (hematoxylin and eosin, original magnification ×400). **C:** At high magnification, the uniform-appearing osteoblasts line the newly formed trabeculae (hematoxylin and eosin, original magnification ×400). **D:** Atypical osteoblastoma with crowded, large epithelioid stromal cells and irregular foci of woven bone formation resembles an osteosarcoma (hematoxylin and eosin, original magnification ×400).

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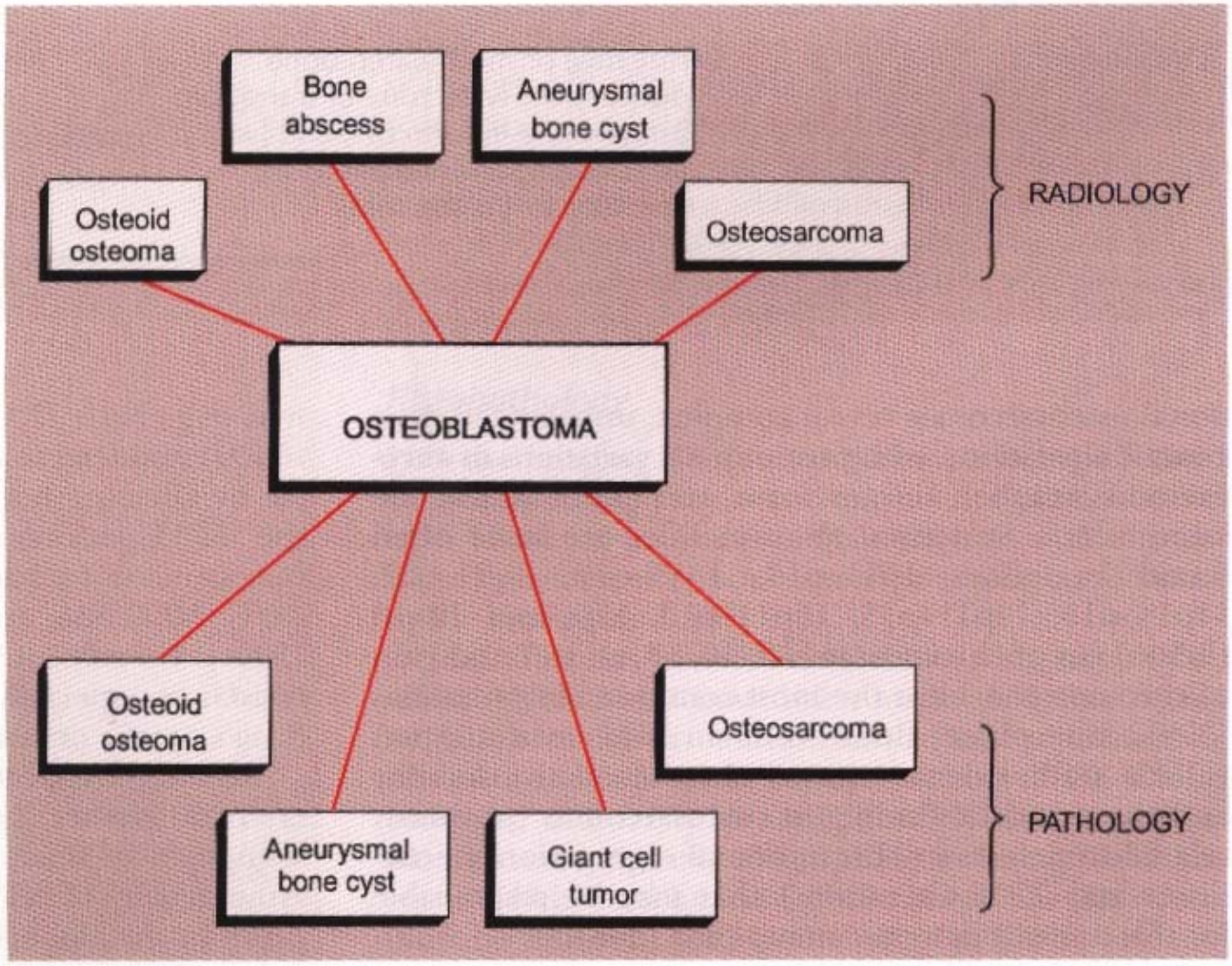
骨母细胞瘤鉴别诊断


Bone abscess
Aneurysmal bone cyst
Osteoid osteoma
Osteosarcoma
RADIOLOGY
OSTEOBLASTOMA
Osteoid osteoma
Osteosarcoma
Aneurysmal bone cyst
Giant cell tumor
PATHOLOGY

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恶性肿瘤-骨肉瘤

- 最常见的原发恶性骨肿瘤
- 好发于膝部、长骨干骺端，其次肱骨近端，扁骨以髂骨多见

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骨肉瘤 Osteosarcoma

- 中央型骨肉瘤 conventional/classic central osteosarcoma
- 血管扩张型骨肉瘤 telangiectatic
- 骨内高分化(低恶性)骨肉瘤 intraosseous well-differentiated(low-grade)osteosarcoma
- 圆细胞(或小细胞)骨肉瘤 round cell/small cell osteosarcoma

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骨肉瘤Osteosarcoma

- 皮质旁(近皮质)骨肉瘤parosteal juxtacortical osteosarcoma
- 骨膜骨肉瘤 periostal osteosarcoma
- 高度恶性浅表骨肉瘤high-grade surface osteosarcoma
- 骨肉瘤病 Osteosarcomatosis
- 软组织骨肉瘤 Sarcoma of soft tissue

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骨肉瘤-组织学

Table 2-6 **Histologic Grading of Osteosarcoma**[a]

Grade	Histologic Features
1	Cellularity: slightly increased Cytologic atypia: minimal to slight Mitotic activity: low Osteoid matrix: regular
2	Cellularity: moderate Cytologic atypia: mild to moderate Mitotic activity: low to moderate Osteoid matrix: regular
3	Cellularity: increased Cytologic atypia: moderate to marked Mitotic activity: moderate to high Osteoid matrix: irregular
4	Cellularity: markedly increased Cytologic atypia: markedly pleomorphic cells Mitotic activity: high Osteoid matrix: irregular, abundant

[a] According to Unni KK, Dahlin DC. Grading of bone tumors. *Semin Diagn Pathol* 1984;1:165–172.

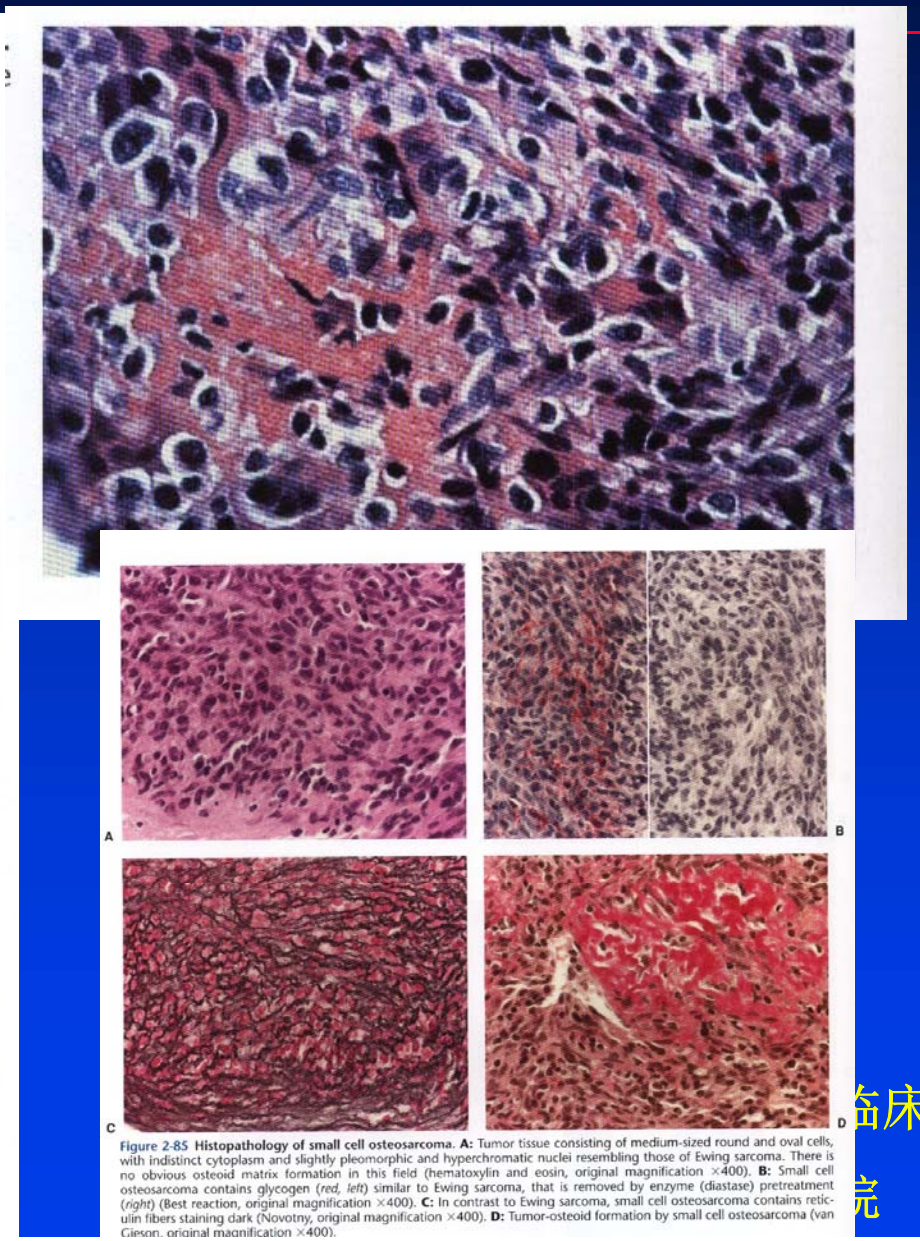

Figure 2-85 **Histopathology of small cell osteosarcoma. A:** Tumor tissue consisting of medium-sized round and oval cells, with indistinct cytoplasm and slightly pleomorphic and hyperchromatic nuclei resembling those of Ewing sarcoma. There is no obvious osteoid matrix formation in this field (hematoxylin and eosin, original magnification ×400). **B:** Small cell osteosarcoma contains glycogen (*red, left*) similar to Ewing sarcoma, that is removed by enzyme (diastase) pretreatment (*right*) (Best reaction, original magnification ×400). **C:** In contrast to Ewing sarcoma, small cell osteosarcoma contains reticulin fibers staining dark (Novotny, original magnification ×400). **D:** Tumor-osteoid formation by small cell osteosarcoma (van Gieson, original magnification ×400).

中央型骨肉瘤conventional/classic centra

- 好发10—30岁
- 男：女发病比例为2：1
- 临床表现包括疼痛、肿胀、功能障碍、皮温升高
- 好发四肢长骨，特别是股骨、胫骨、肱骨，其中50%—75%位于膝关节周围，干骺端是好发部位

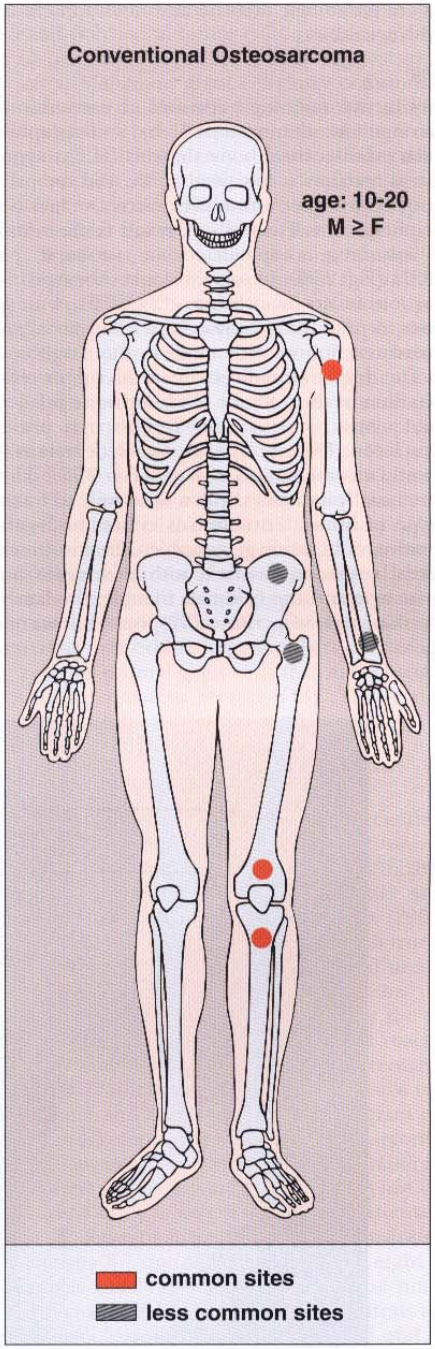

Figure 2-69 Conventional osteosarcoma: skeletal sites of predilection, peak age range, and male-to-female ratio.

中央型骨肉瘤conventional/classic central osteosarcoma

- 影像学特点
- 成骨、溶骨及筛孔样骨破坏
- 骨膜反应
- 软组织肿块

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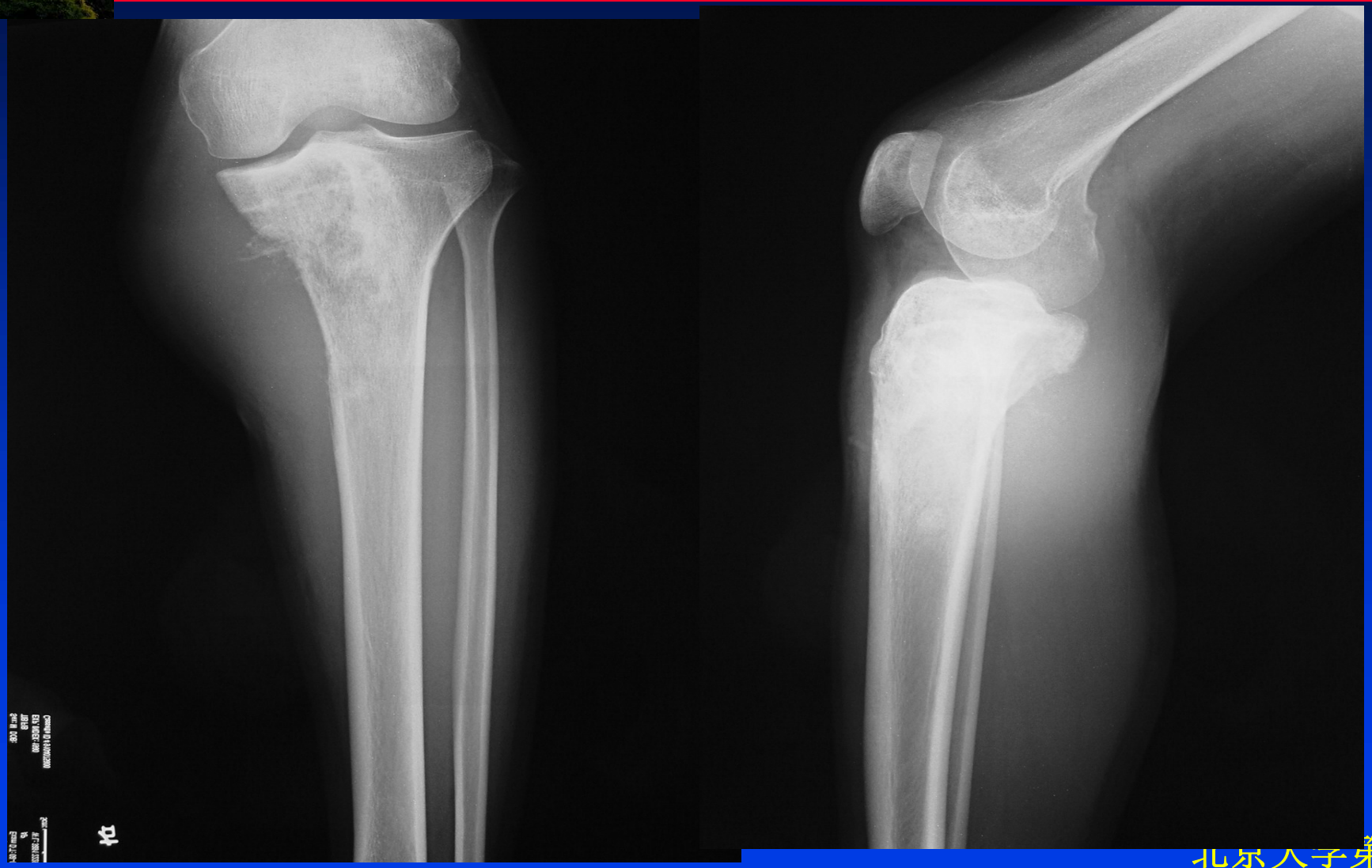
中央型骨肉瘤conventional/classic central osteosarcoma



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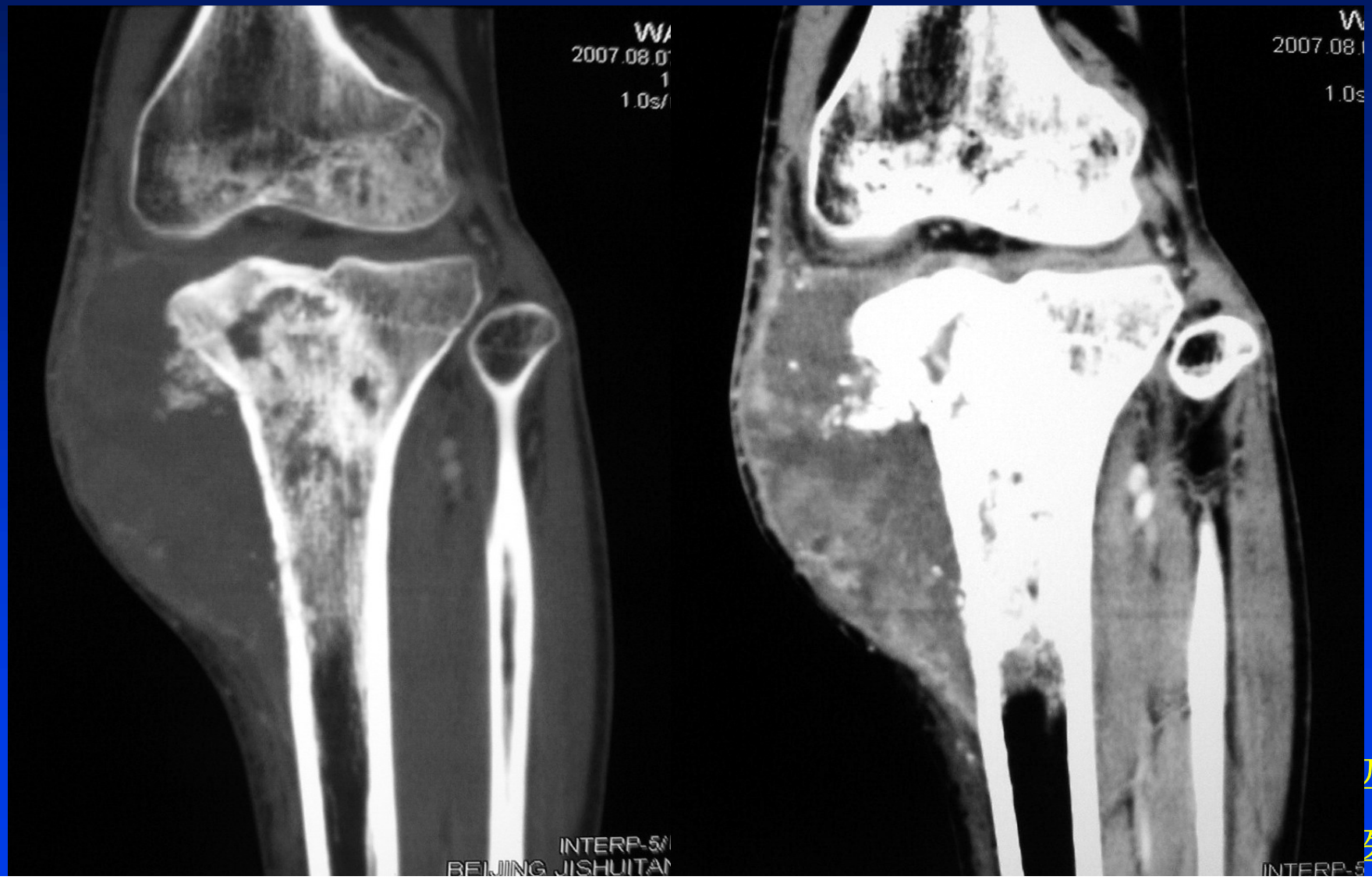
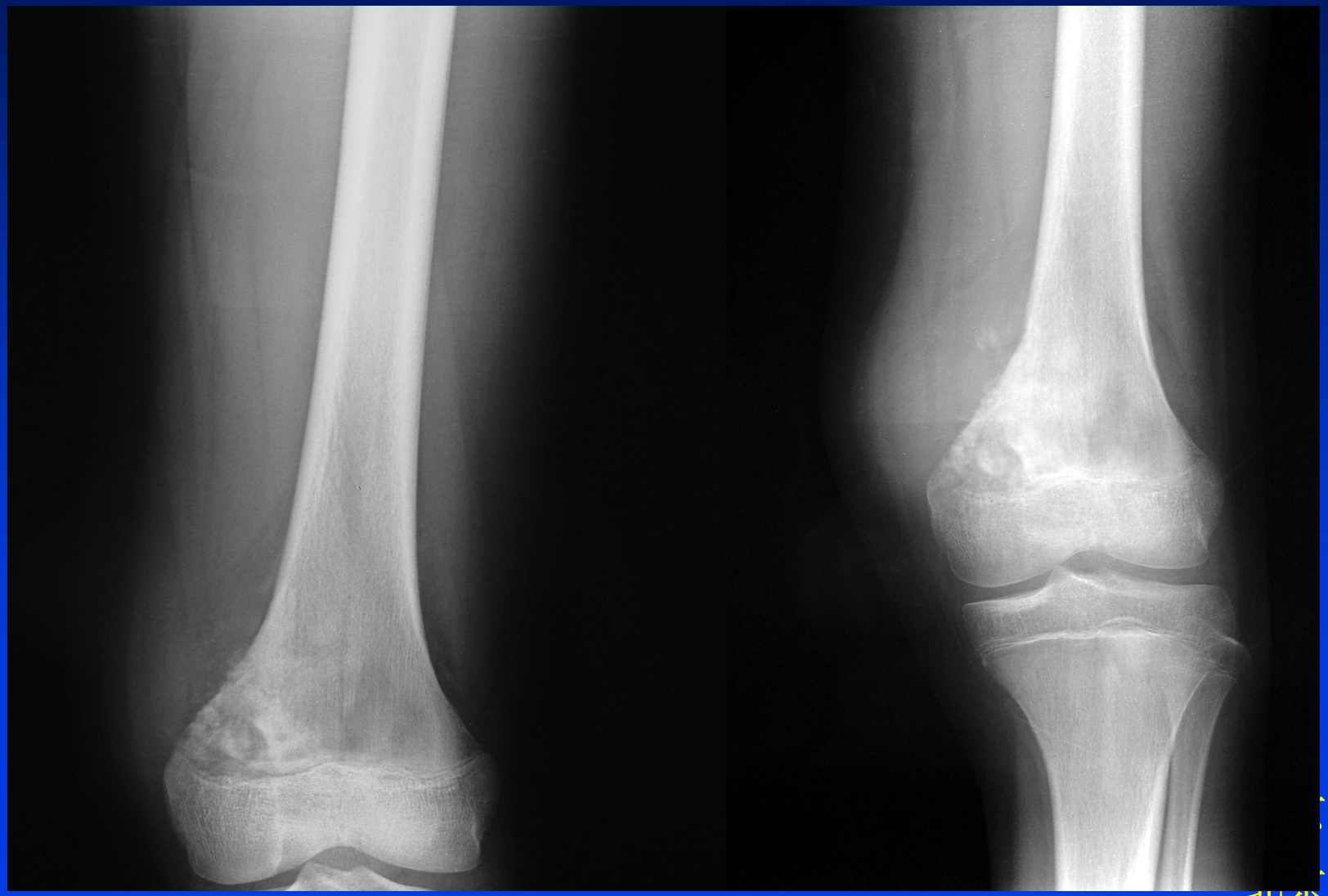
中央型骨肉瘤conventional/classic central osteosarcoma



中央型骨肉瘤conventional/classic central osteosarcoma



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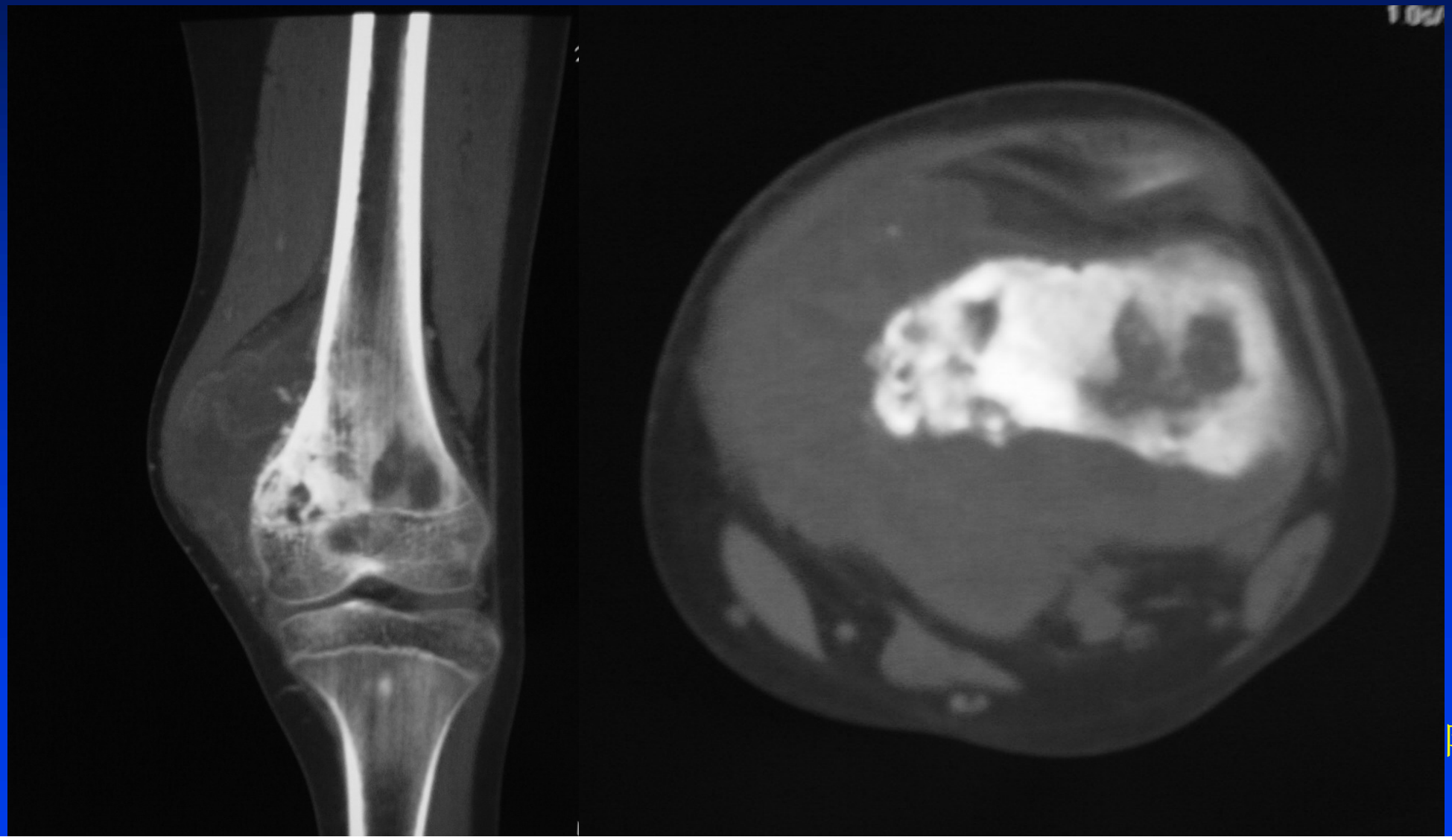
中央型骨肉瘤conventional/classic central osteosarcoma



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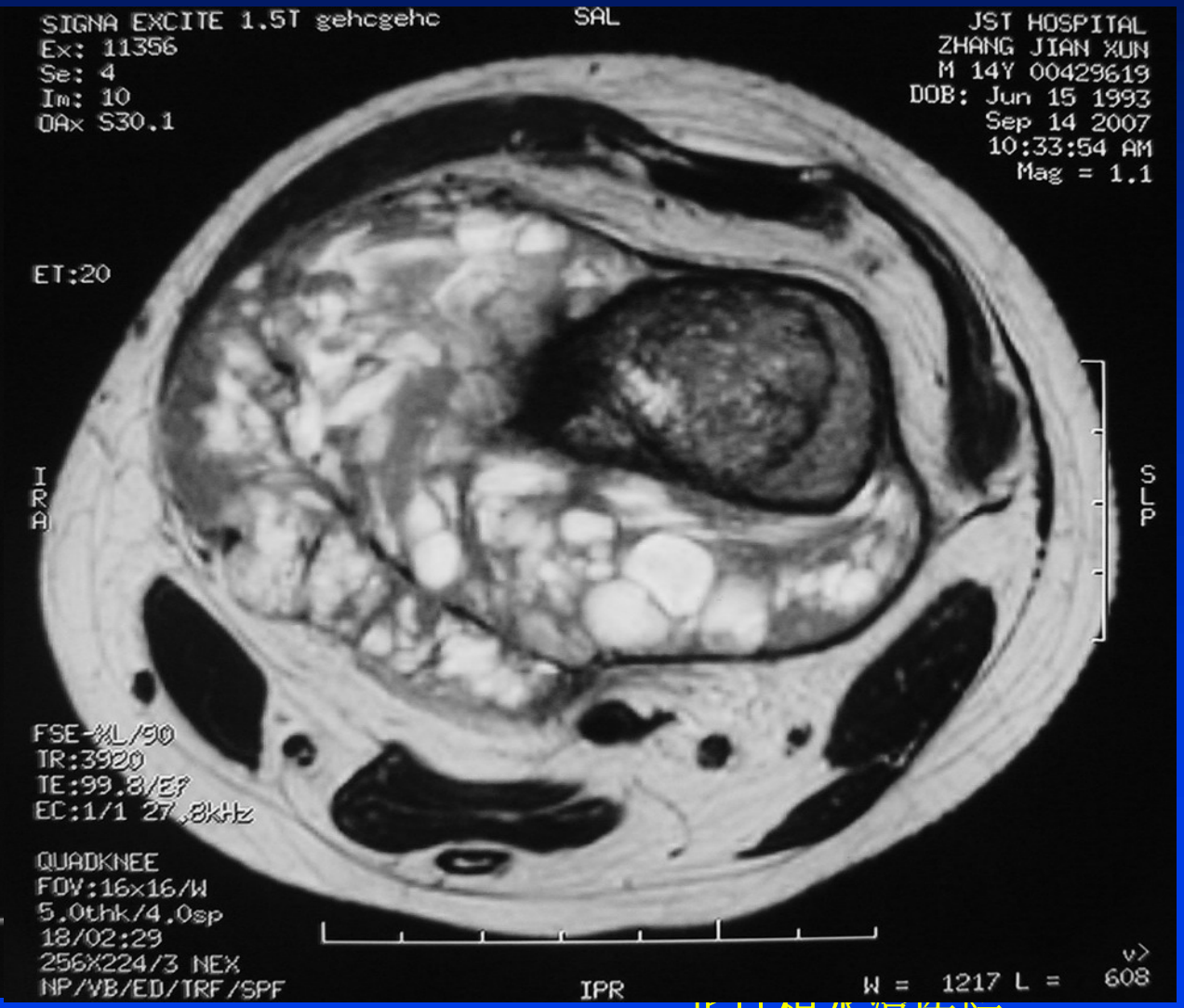
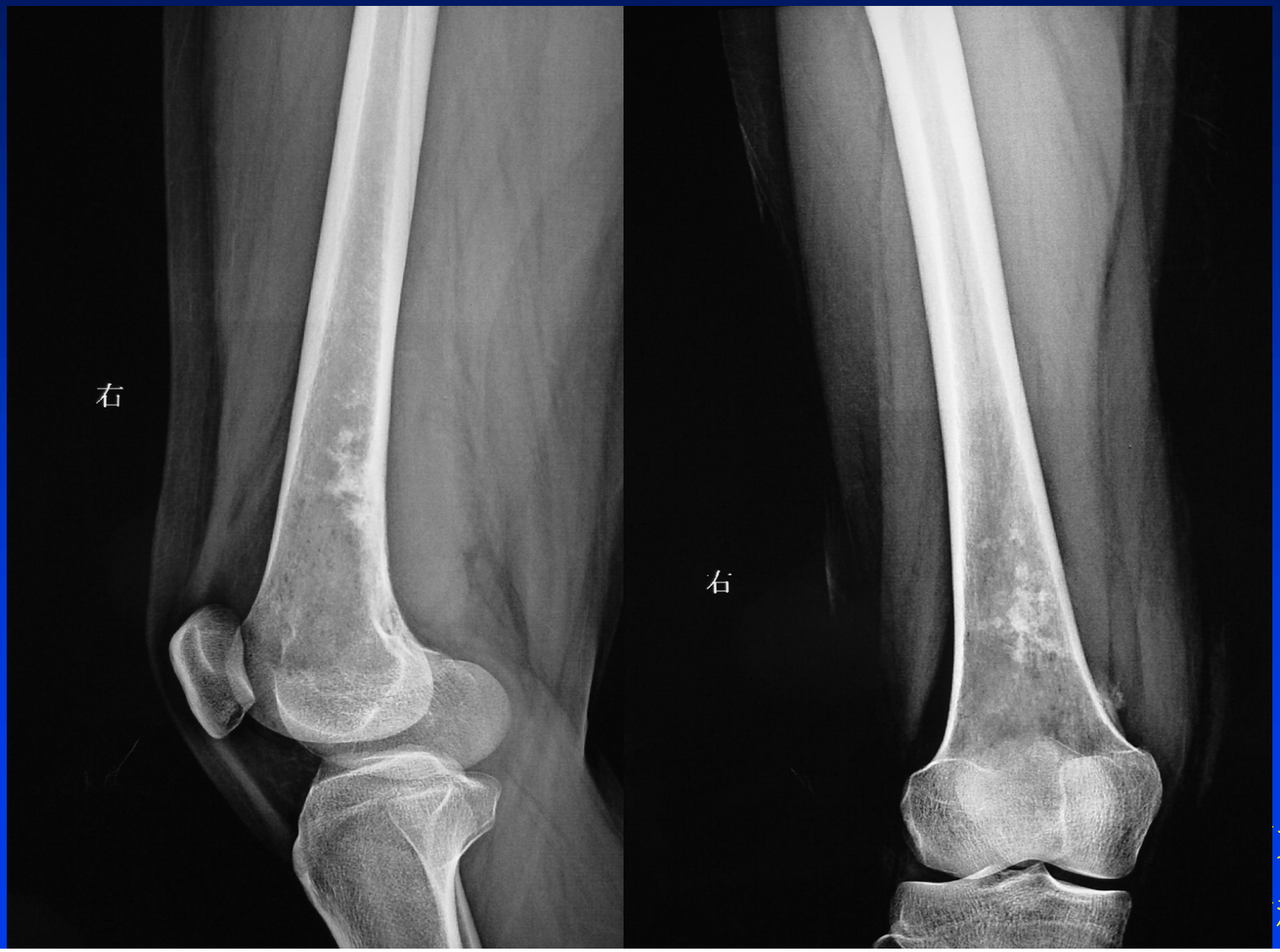
中央型骨肉瘤conventional/classic central osteosarcoma



中央型骨肉瘤conventional/classic central osteosarcoma



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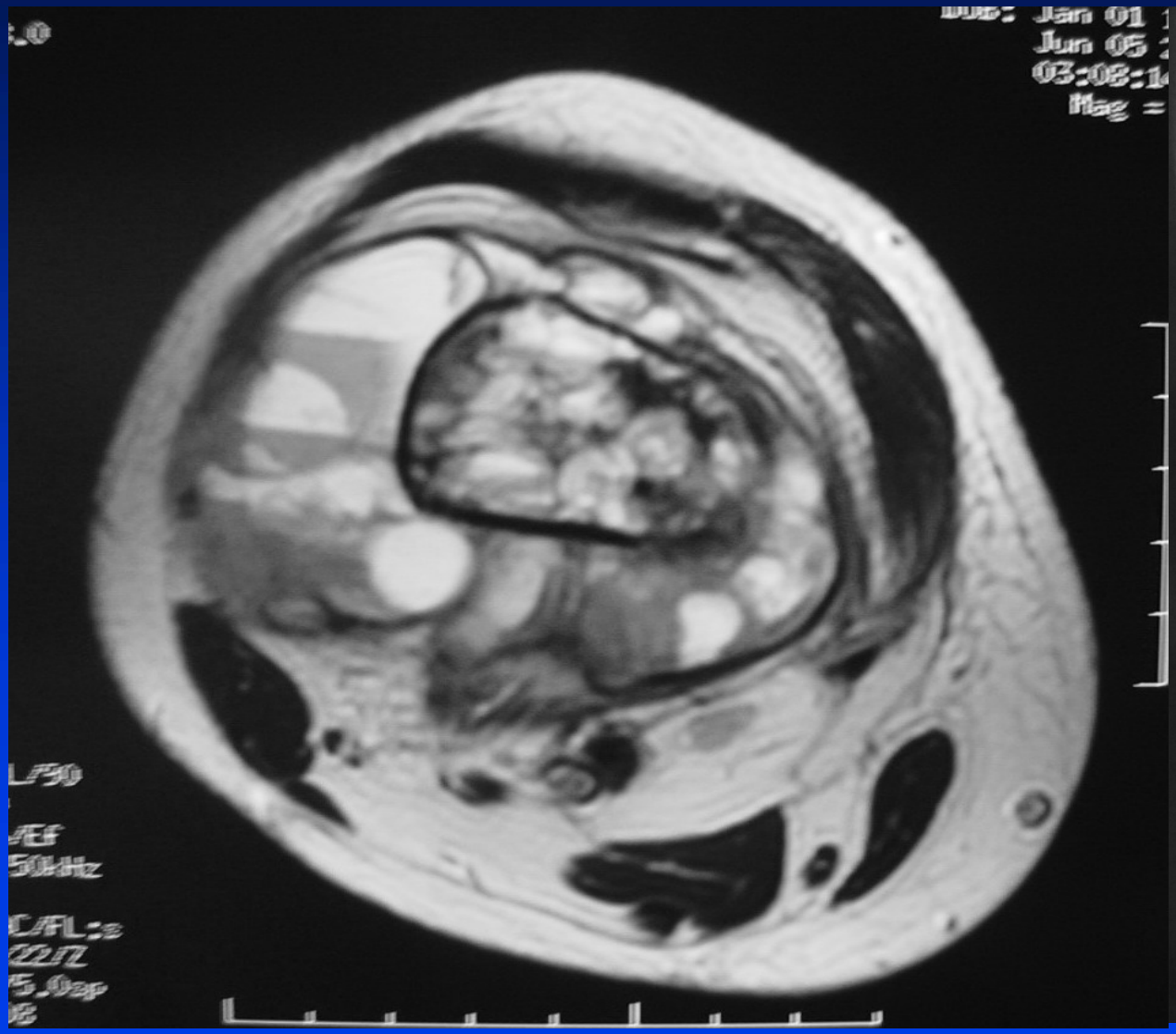
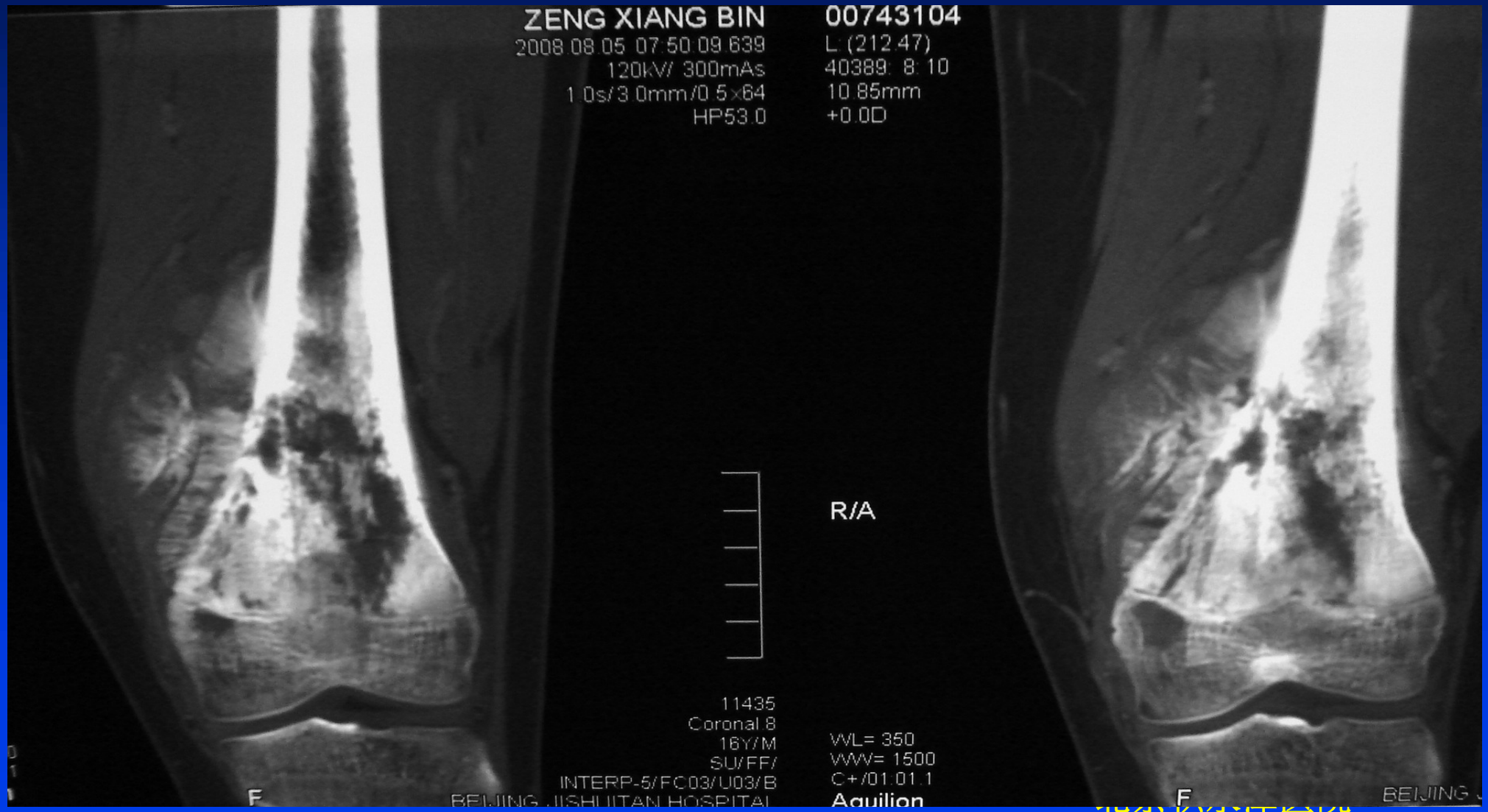
中央型骨肉瘤conventional/classic central osteosarcoma

中央型骨肉瘤(conventional/classic central osteosarcoma)

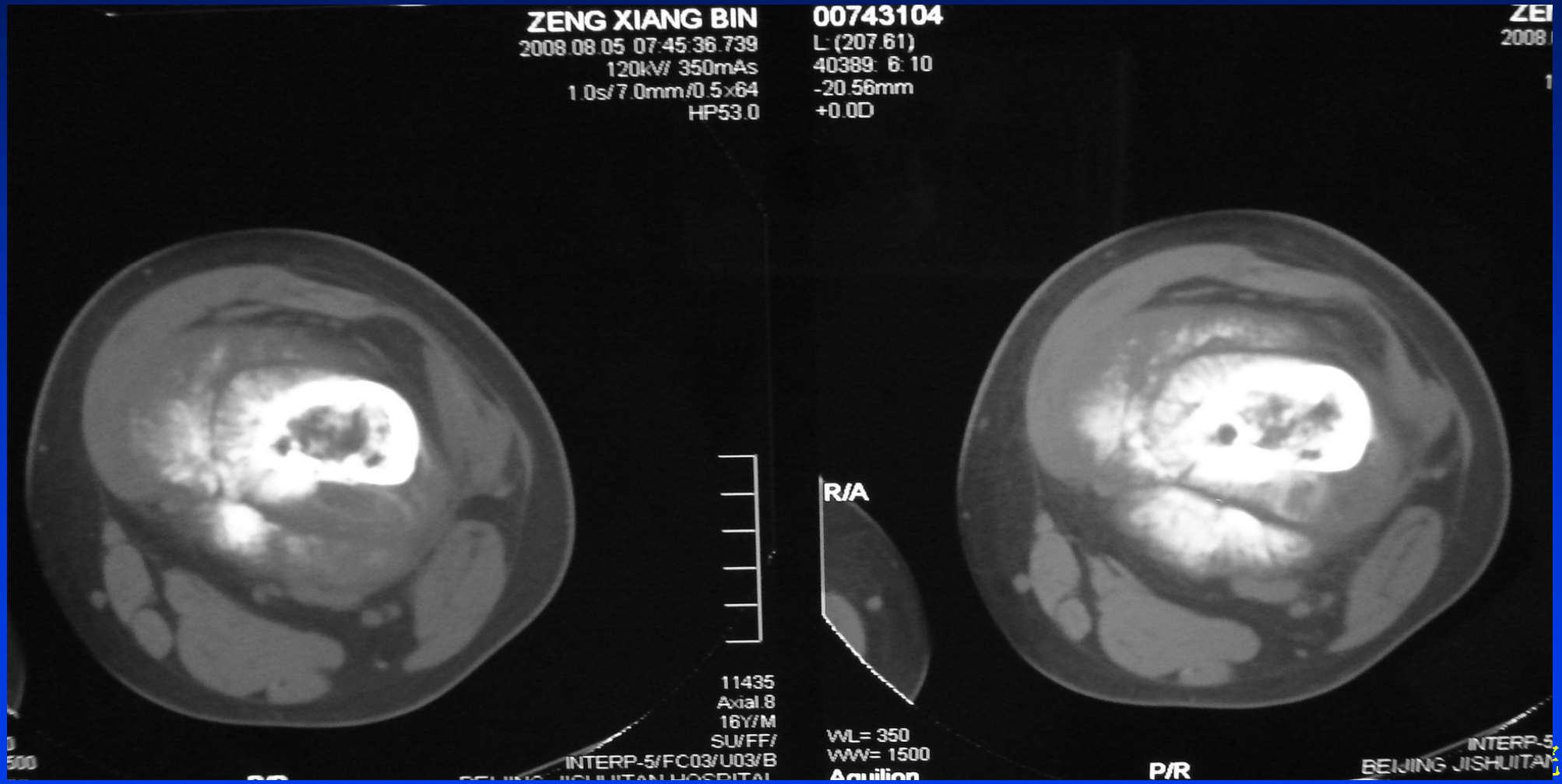


中央型骨肉瘤(conventional/classic central osteosarcoma)

中央型骨肉瘤(conventional/classic central osteosarcoma)



中央型骨肉瘤(conventional/classic central osteosarcoma)



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血管扩张型骨肉瘤(telangiectatic)

- 毛细血管扩张性骨肉瘤是一种少见的骨肉瘤亚型。发生部位多在骨干，病程短，发展快，临床上不易早期明确诊断,易误诊，从而延误治疗
- 10-20岁 男＞ 女
- 干骺端发病，骨端可受侵

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血管扩张型骨肉瘤(telangiectatic)

- 诊断标准
- (1)X线片显示病灶以广泛溶骨性破坏为主，伴有极少的钙化；
- (2)大体标本质软较大的囊腔性（单房或多房）肿物；
- (3)组织学上显示为动脉瘤样扩张的含血腔隙，同时存在典型的骨肉瘤结构

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血管扩张型骨肉瘤(telangiectatic)

- 影像学特点
- 呈溶骨性破坏及膨胀性骨破坏改变
- 骨皮质可见筛孔样改变及骨膜反应
- 可见软组织肿块影像

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血管扩张型骨肉瘤(telangiectatic)

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水潭医院

血管扩张型骨肉瘤(telangiectatic)

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北京佑水潭医院

血管扩张型骨肉瘤(telangiectatic)

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血管扩张型骨肉瘤(telangiectatic)

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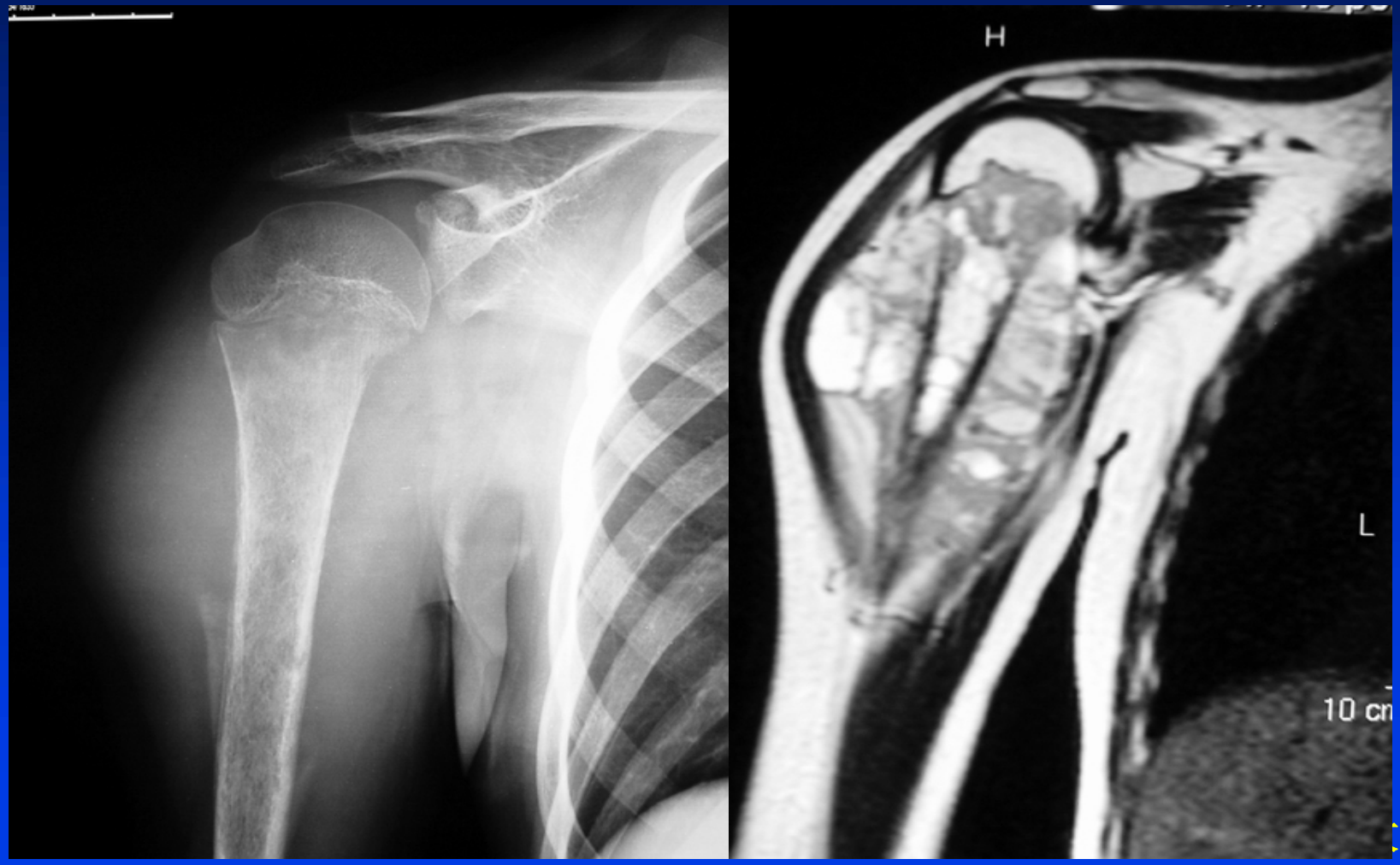

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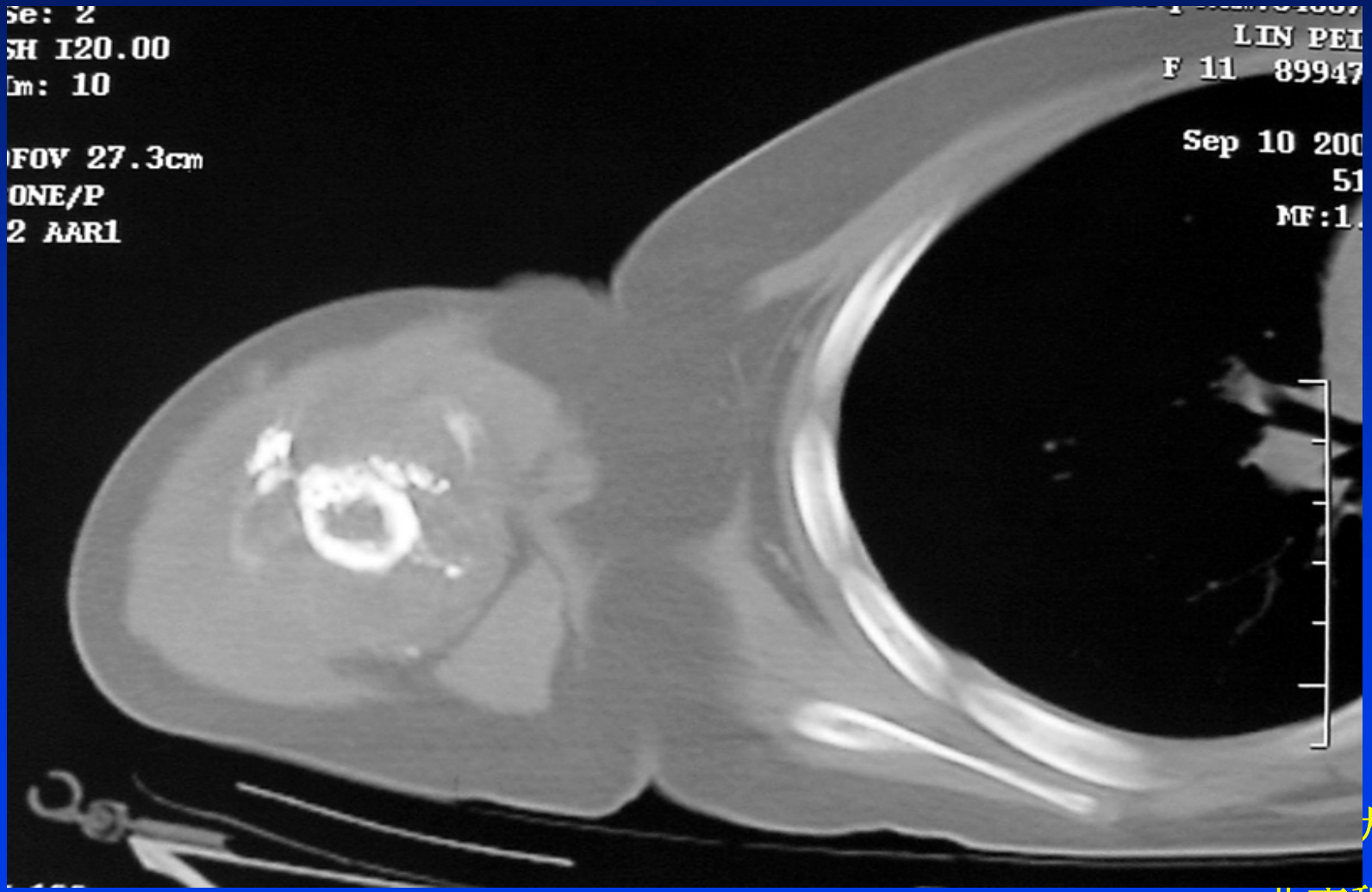

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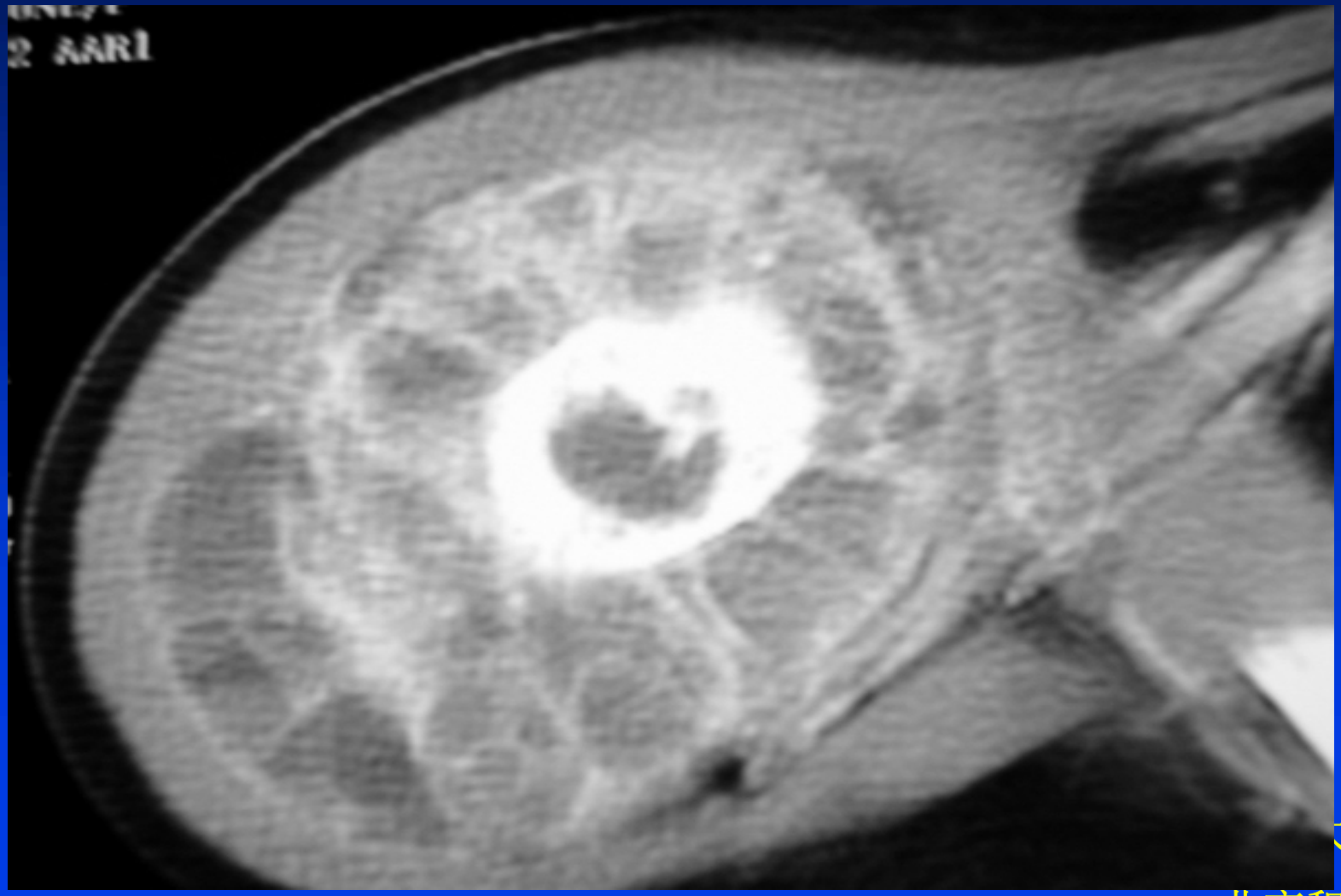
血管扩张型骨肉瘤(telangiectatic)



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血管扩张型骨肉瘤(telangiectatic)

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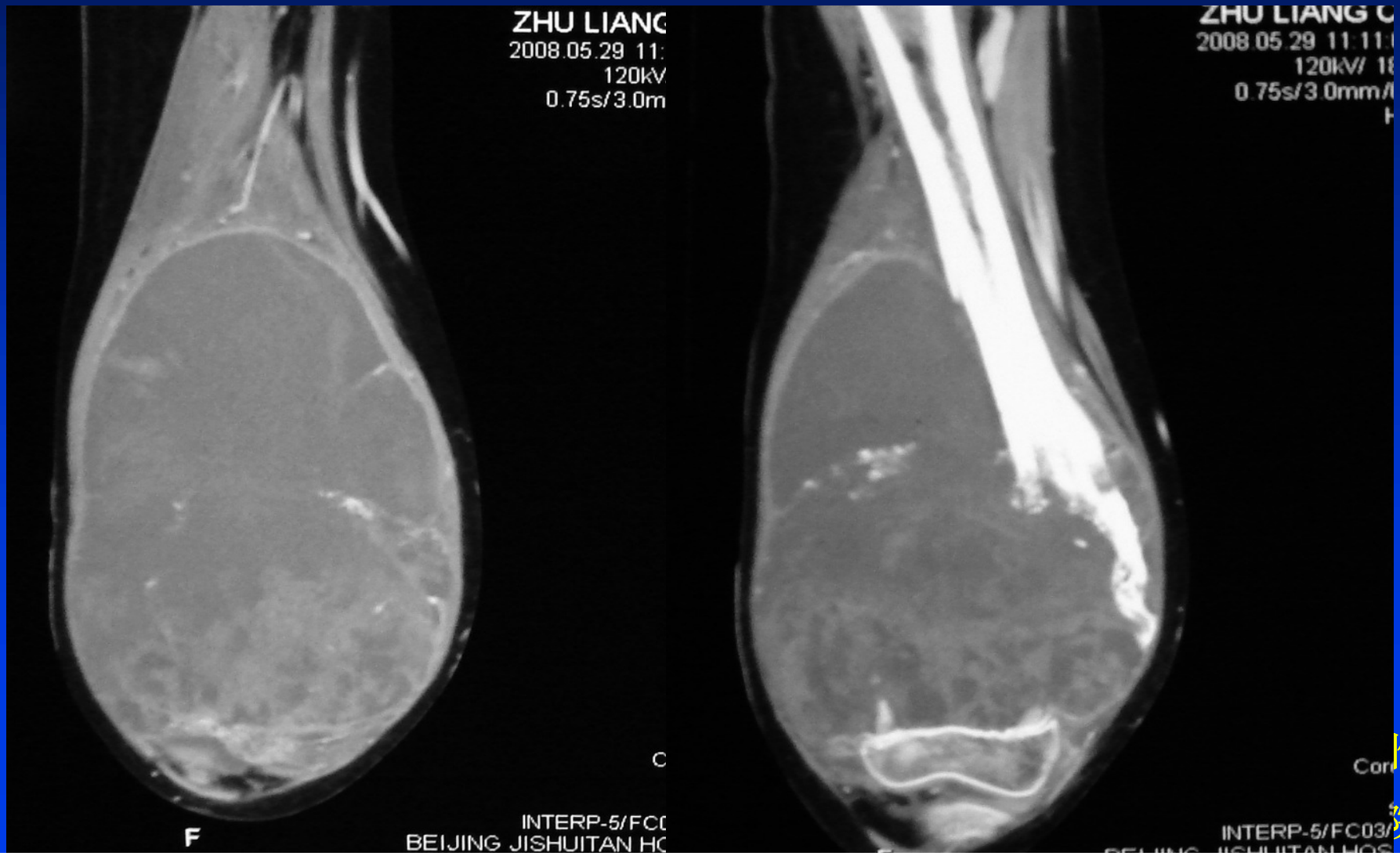

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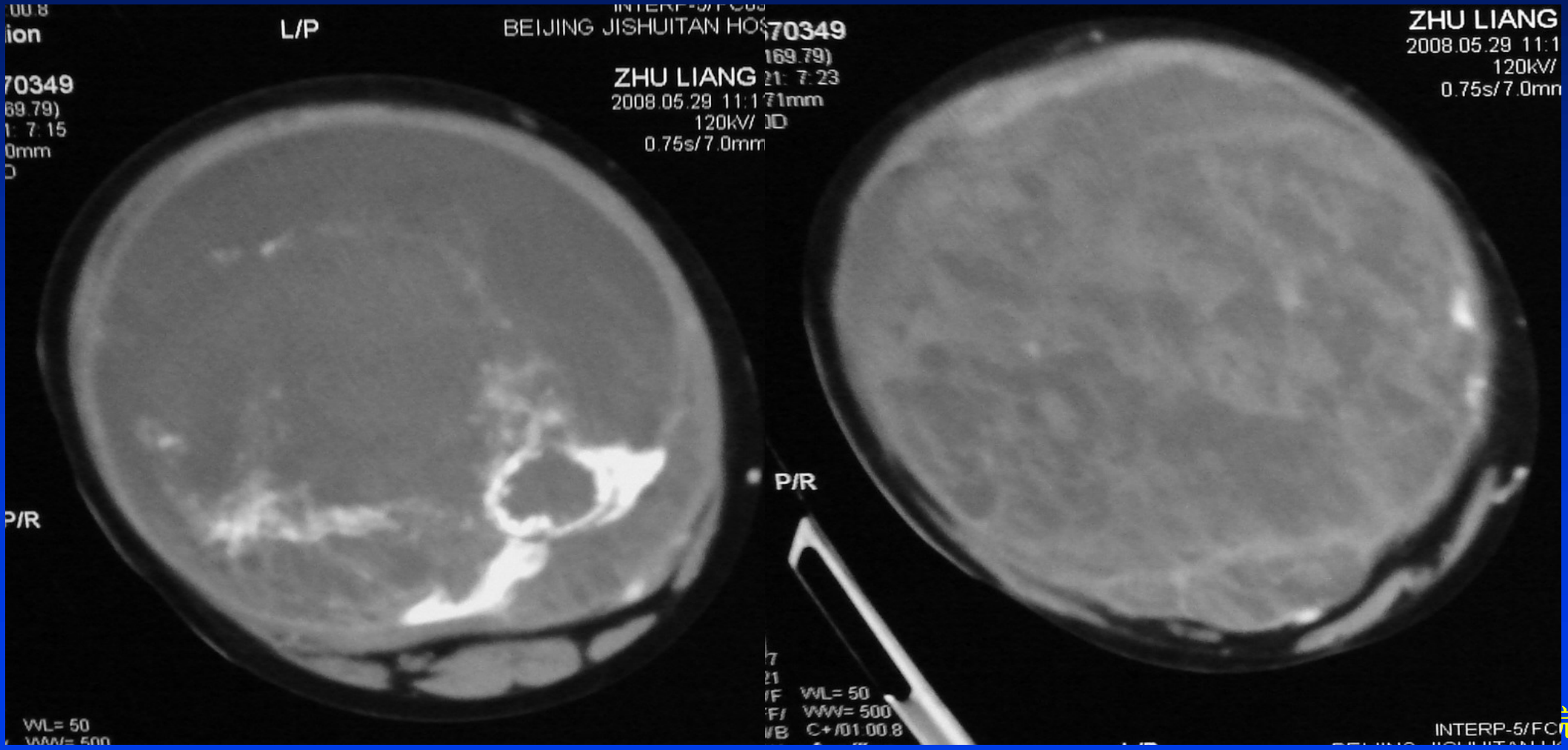

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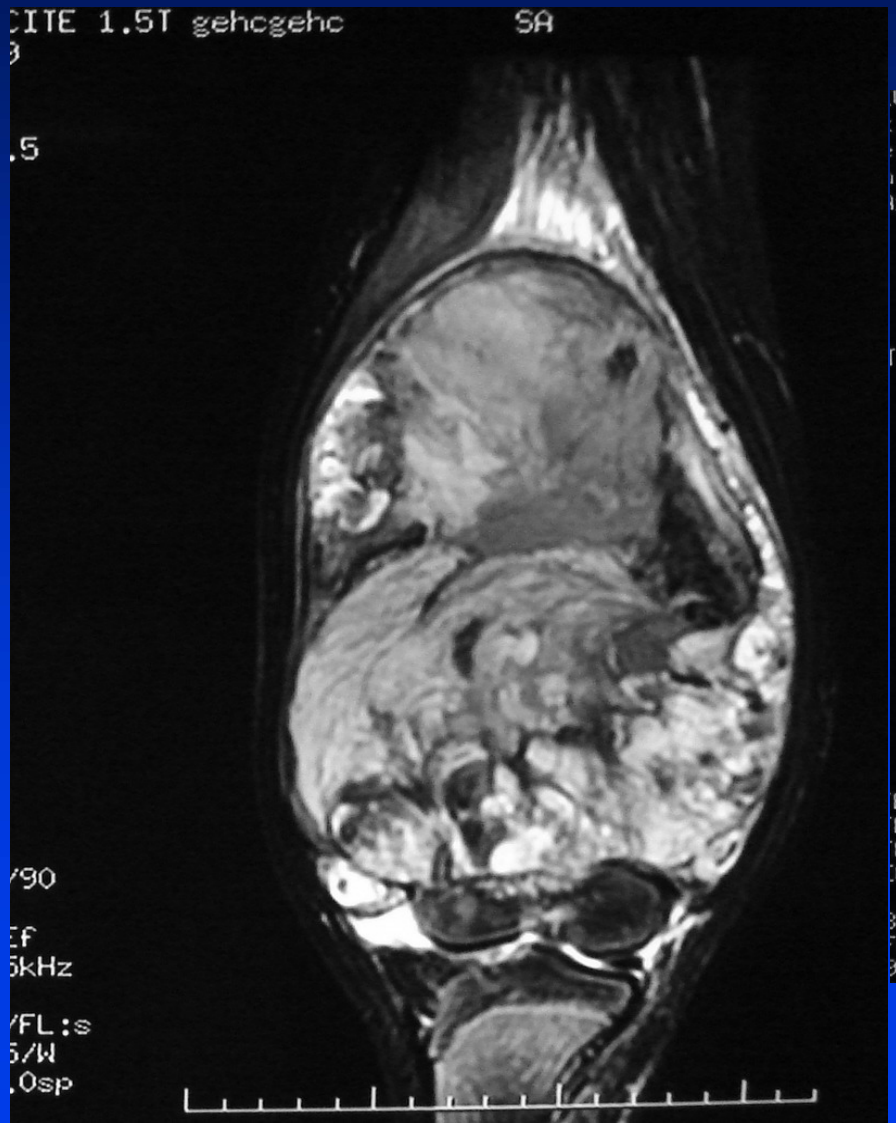

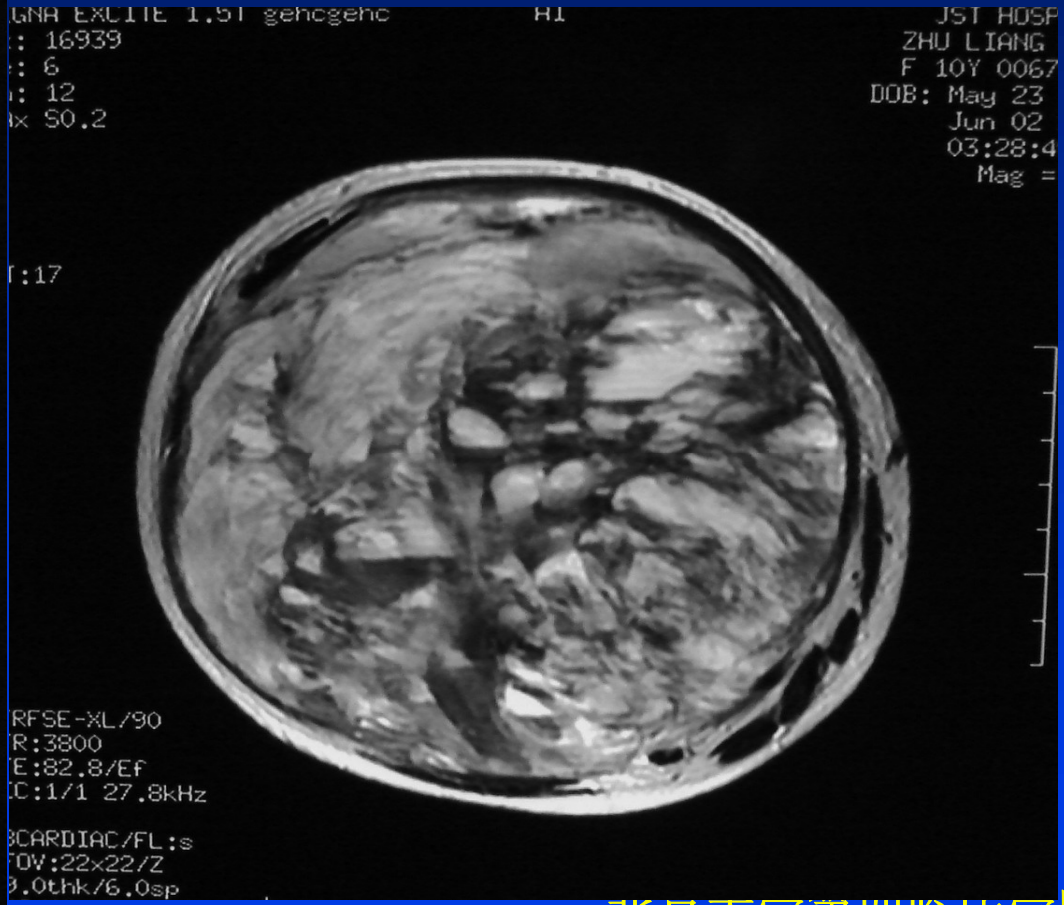

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骨内高分化(低恶性)骨肉瘤intraosseous well-differentiated(low-grade)osteosarcoma

- 骨内高分化(低恶性)骨肉瘤　该型罕见，组织学表现为低度恶性纤维骨病缺损，可出现骨旁骨肉瘤、纤维结构不良、骨母细胞瘤样、软骨粘液纤维瘤样等组织
- 好发10-30，男＞女
- 病程长，症状轻
- 主要为股骨、胫骨发病

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骨内高分化(低恶性)骨肉瘤intraosseous well-differentiated(low-grade)osteosarcoma

- 影像学表现
- 病灶呈致密、质地均匀
- 起自骨内膜
- 充满髓腔及干骺端
- 边界不清
- 少有骨膜反应

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骨内高分化(低恶性)骨肉瘤intraosseous well-differentiated(lowgrade)osteosarcoma

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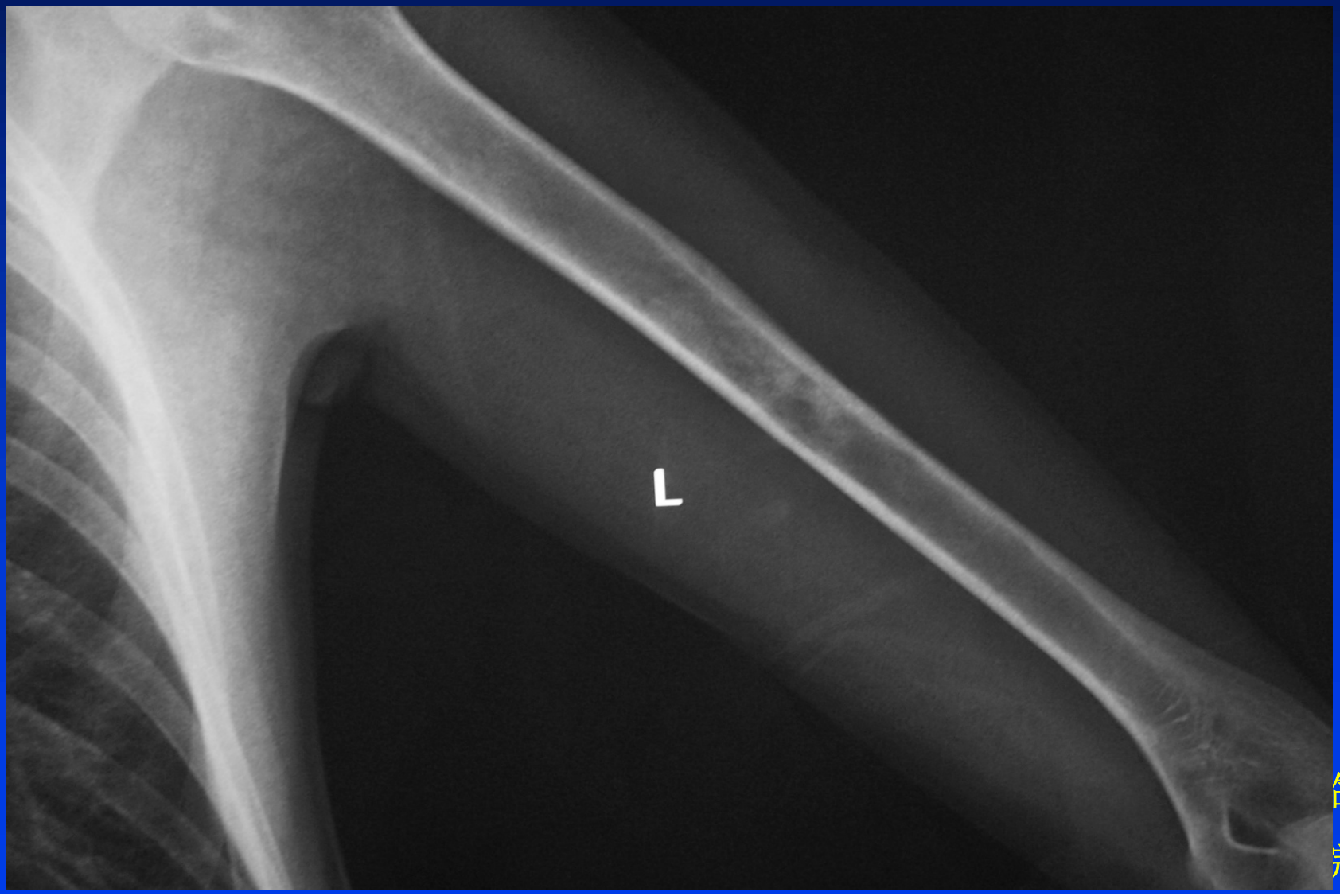

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骨内高分化(低恶性)骨肉瘤intraosseous well-differentiated(low-grade)osteosarcoma

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圆细胞(或小细胞)骨肉瘤(round-cell/small cell osteosarcoma)

- 圆细胞(小细胞)骨肉瘤　该型肿瘤由类似Ewing肉瘤或大细胞淋巴瘤等恶性小细胞组成
- 该型肿瘤相当少见(约占骨肉瘤1%)，但认为该型相当重要，因为它治疗效果远较一般骨肉瘤差

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圆细胞(或小细胞)骨肉瘤(round-cell/small cell osteosarcoma)

- 好发于5-20岁，男=女
- 好发部位，干骺端
- 影像学表现，干骺端骨破坏，骨膜反应，
- 软组织肿块

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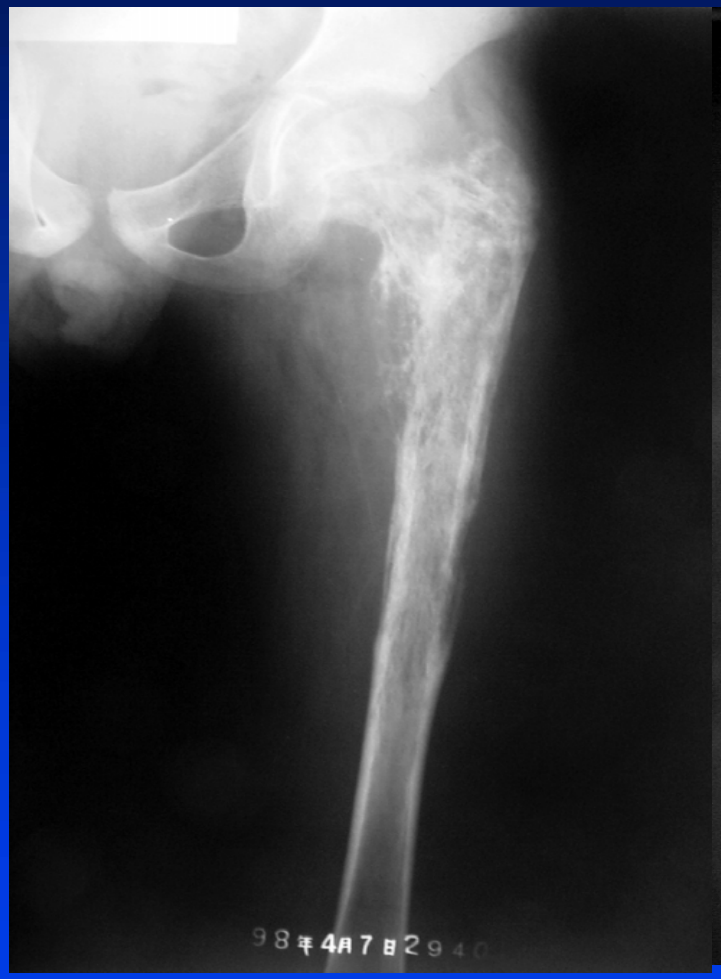
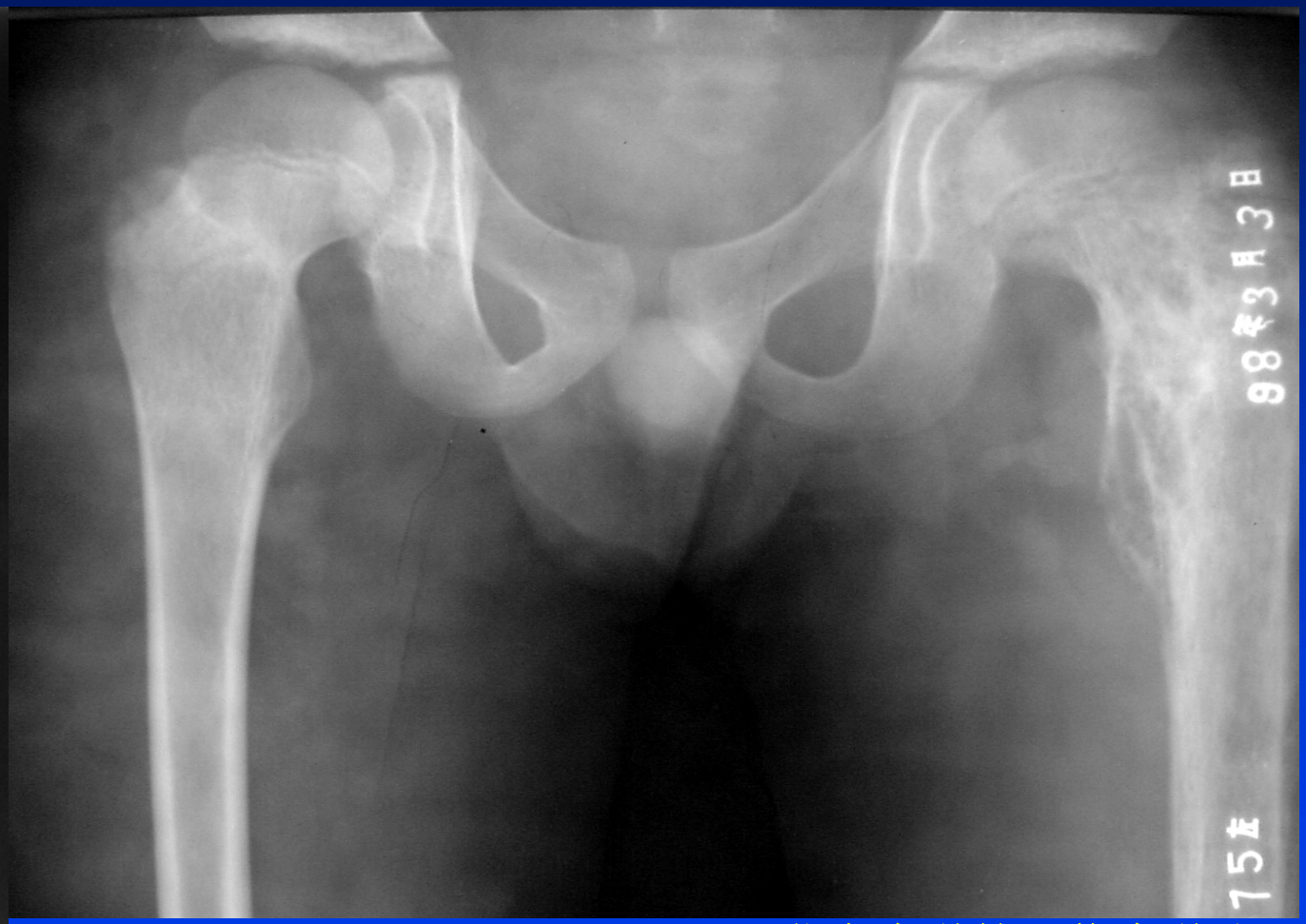
圆细胞(或小细胞)骨肉瘤(round-cell/small cell osteosarcoma)





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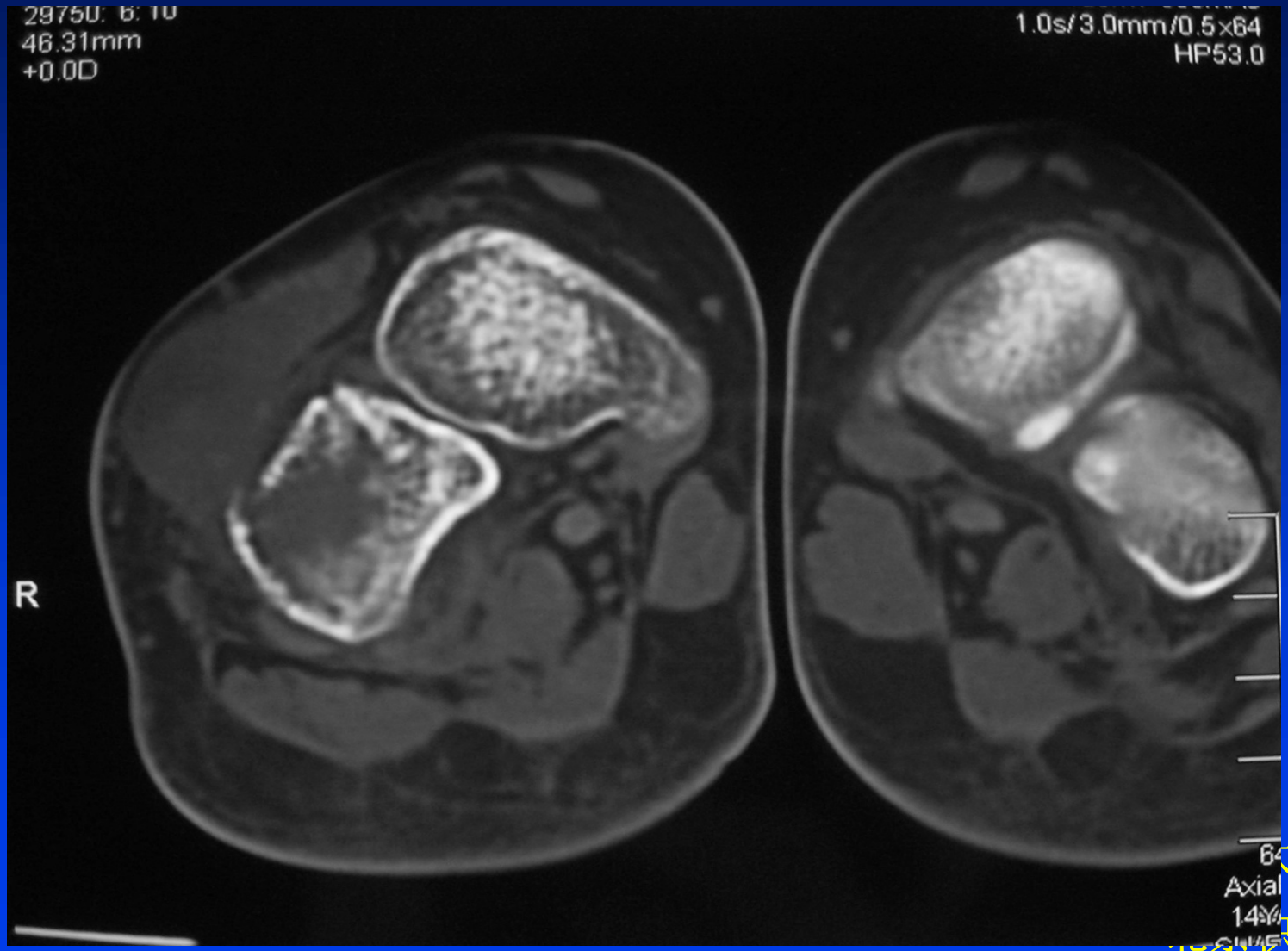

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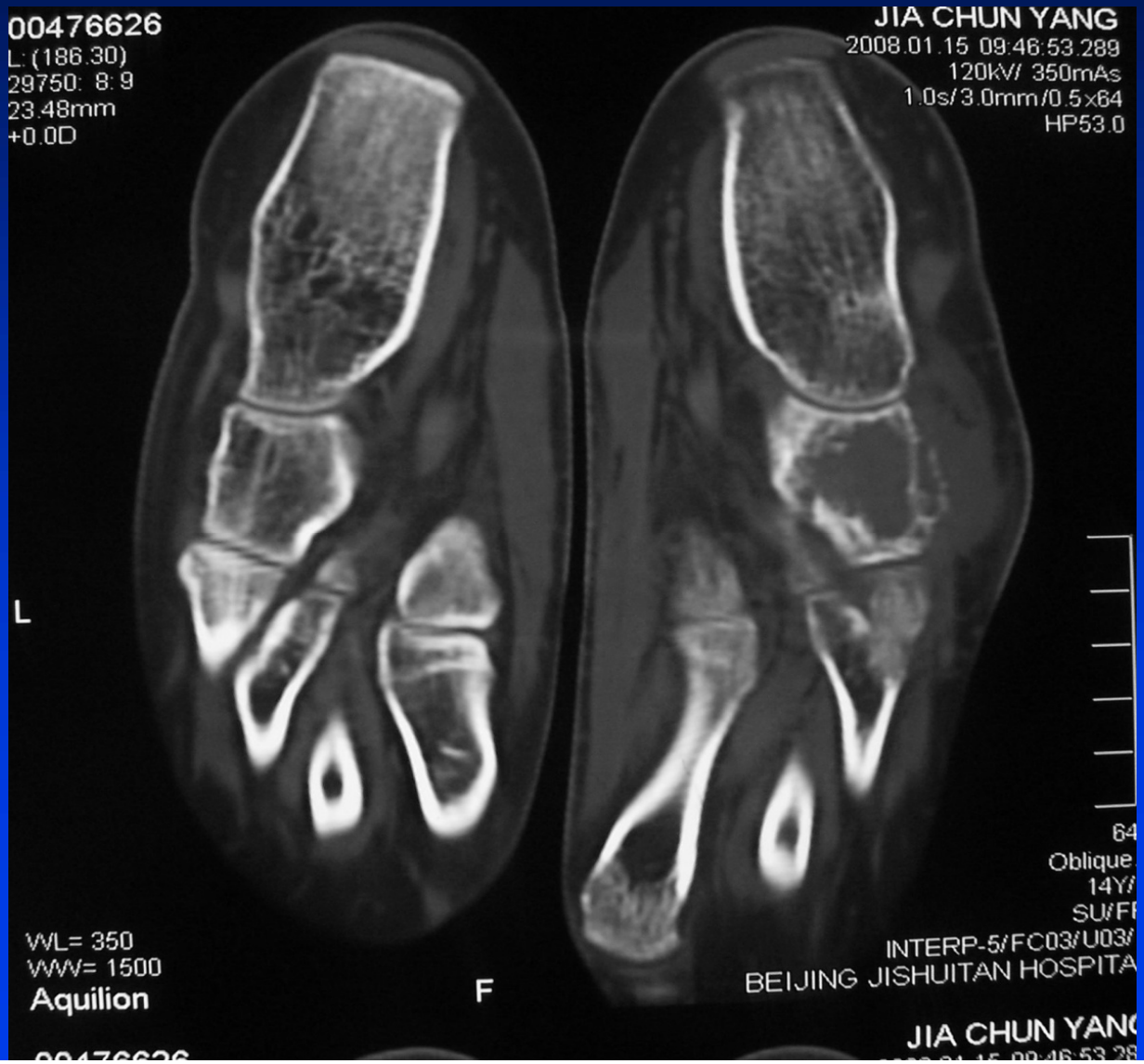

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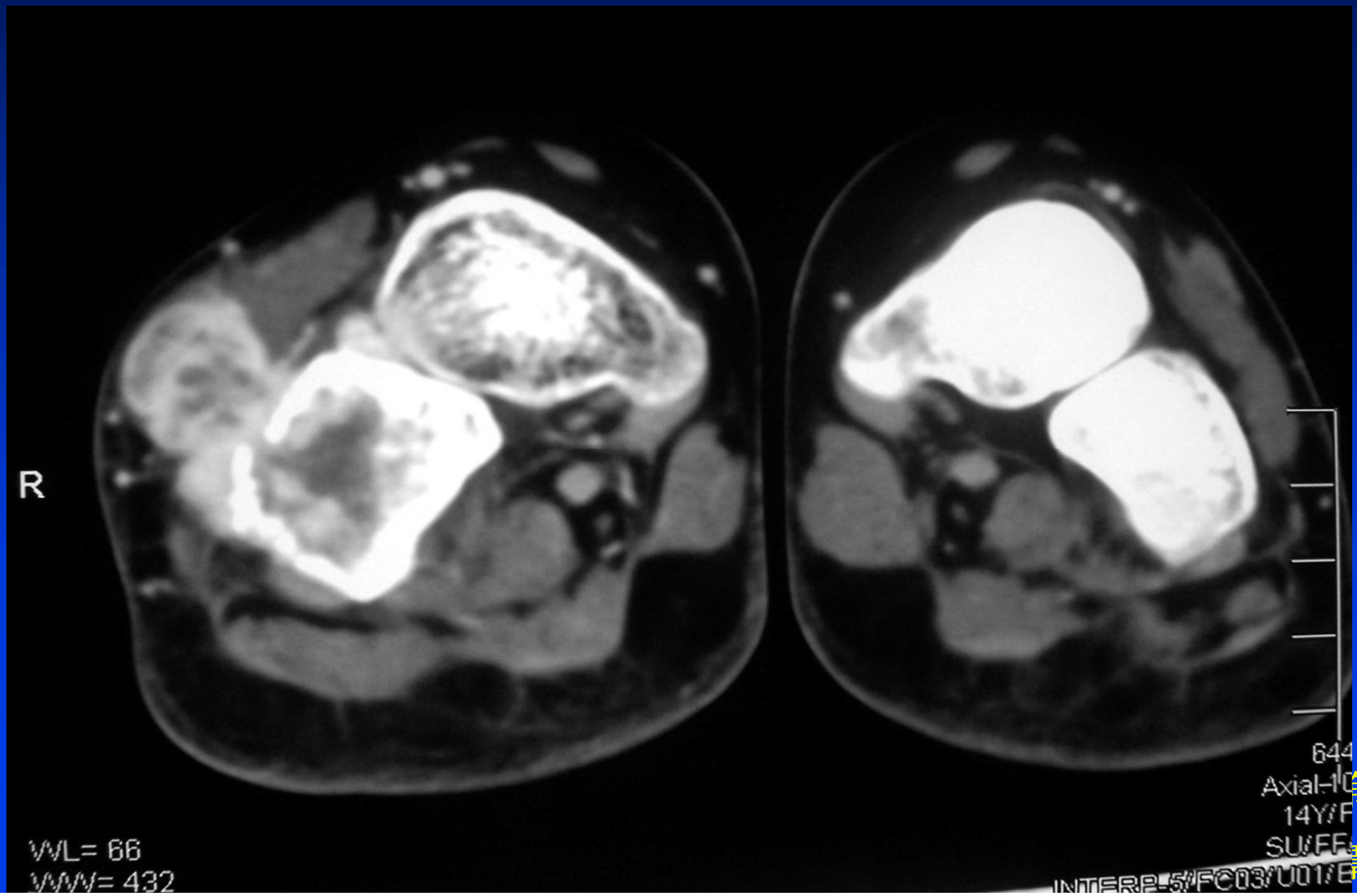

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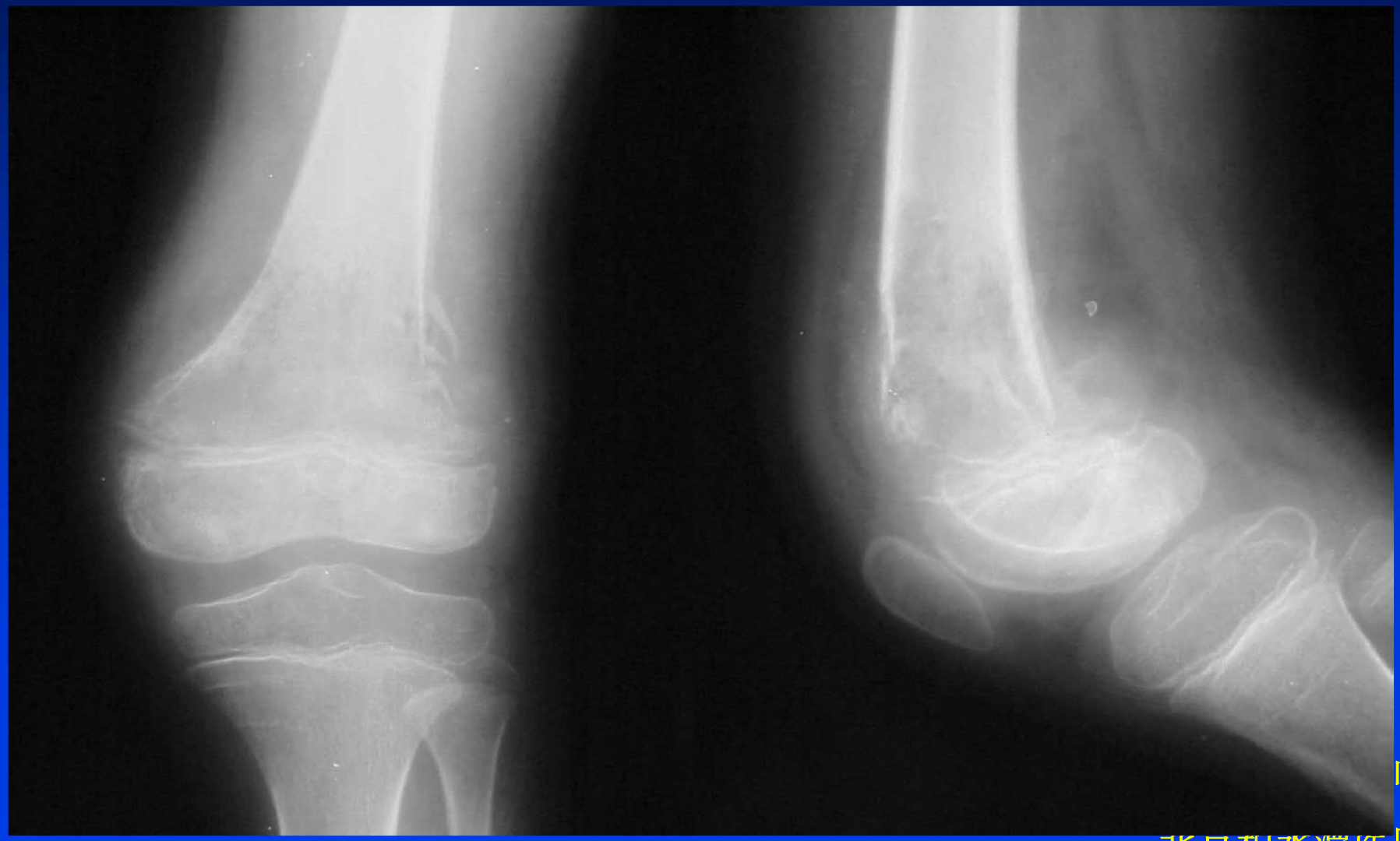

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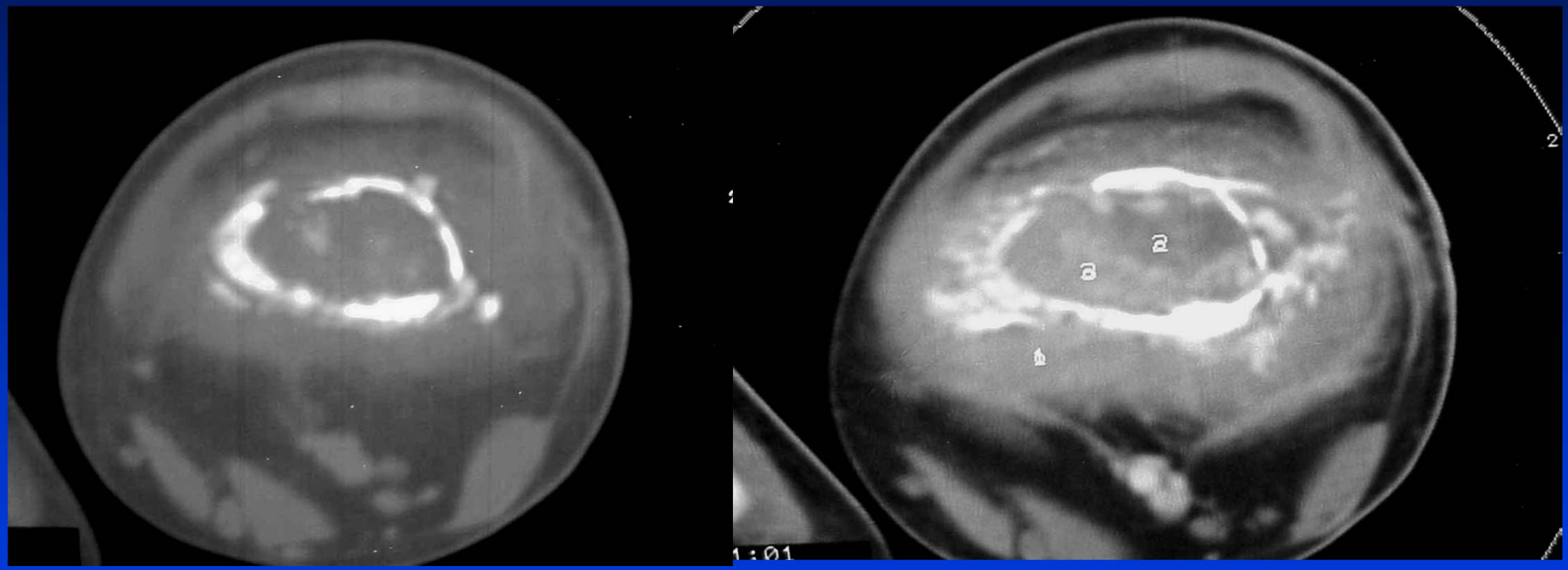

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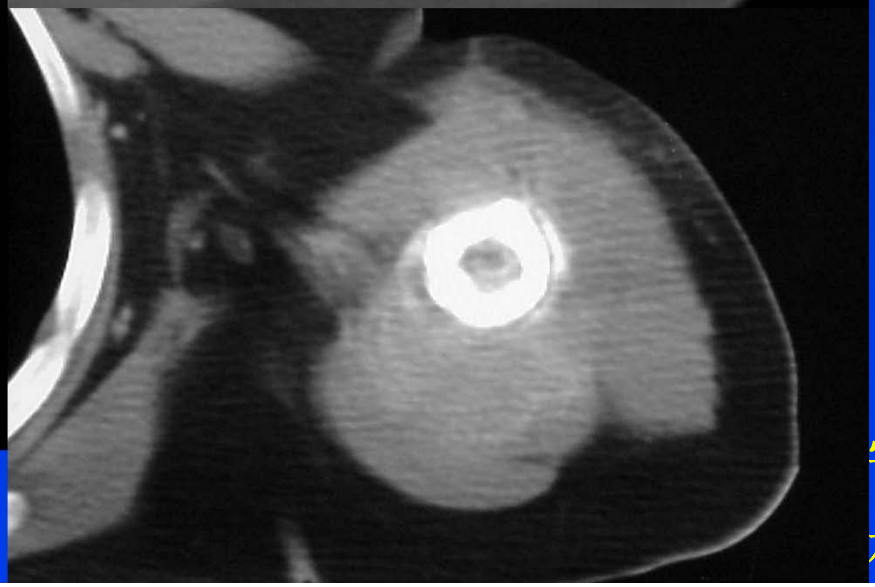

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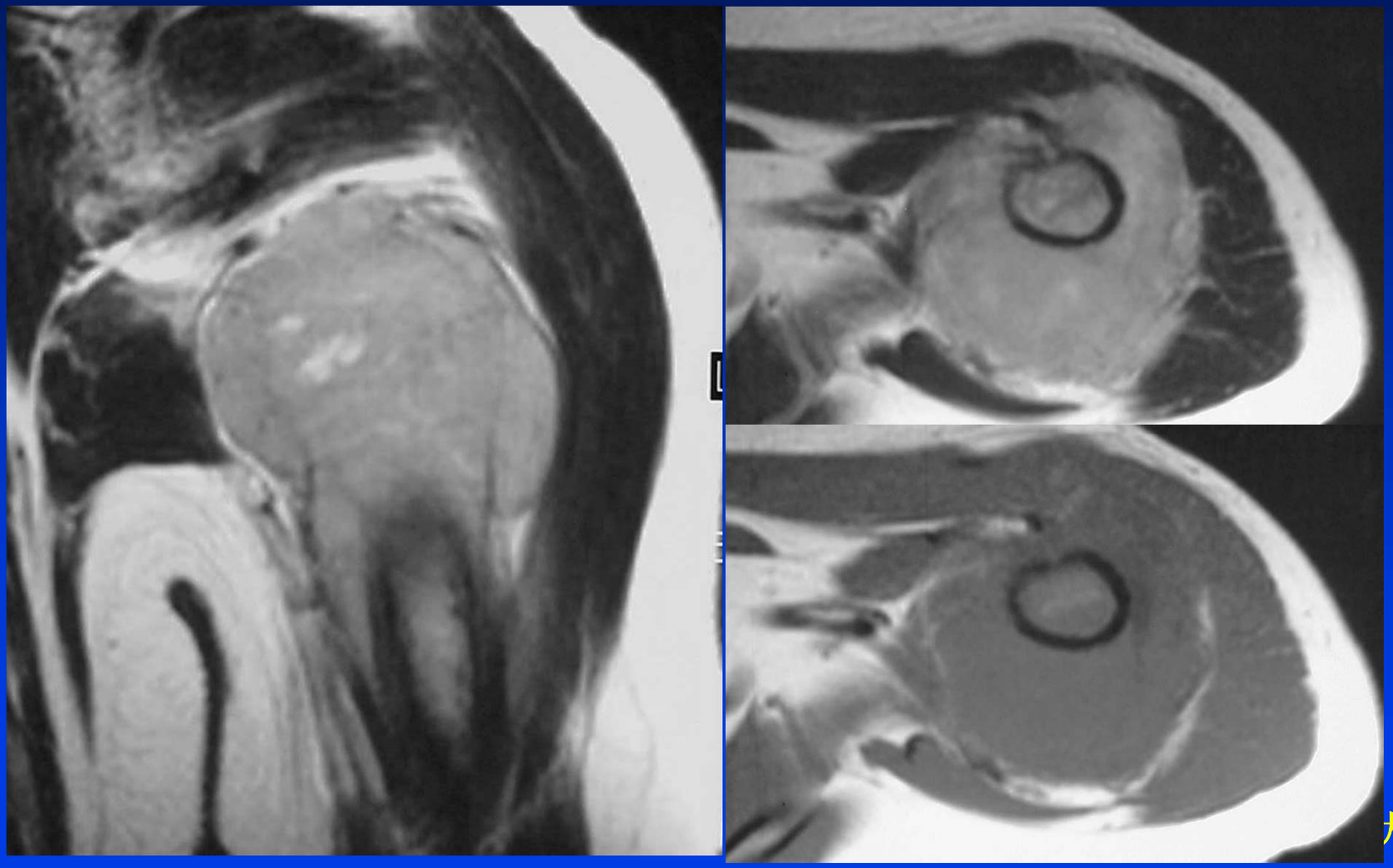

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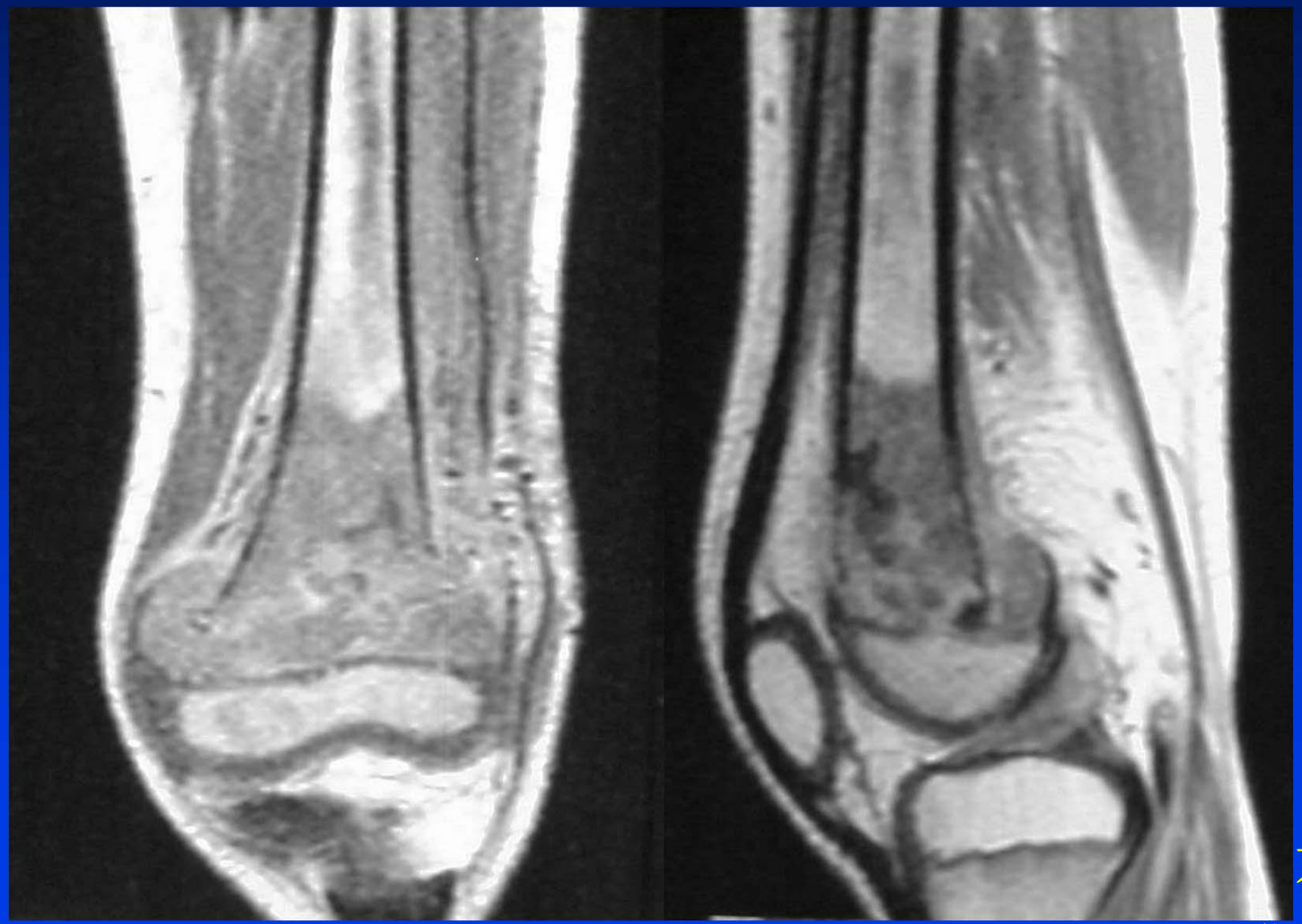

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皮质旁(近皮质)骨肉瘤parosteal juxtacortical osteosarcoma

- 骨旁骨肉瘤（Parosteal osteosarcoma）是位于骨表面相邻的软组织中的原发低度恶性骨肿瘤。是骨肉瘤的一个亚型
- 骨旁骨肉瘤是起源自骨膜或骨皮质附近的成骨性结缔组织，是一种低度恶性或有潜在恶性的肿瘤，一般预后较佳

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皮质旁(近皮质)骨肉瘤parosteal juxtacortical osteosarcoma

- 好发于股骨，其次为胫骨、肱骨、前臂骨、髂骨及腓骨。肿瘤几乎在骨骺区发生，很少出现在骨干部位
- 主要症状特点是生长缓慢，疼痛出现较晚，且不剧烈，呈中等程度。多数病人的首发症状可能是肿块而且不伴发疼痛

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皮质旁(近皮质)骨肉瘤parosteal juxtacortical osteosarcoma

- X线平片显示沿干骺端出现分叶状密度不均匀的肿块影，环绕骨干生长
- 侵犯软组织时，在软组织内可见大小不等密度不均匀的肿瘤骨
- CT对骨旁骨肉瘤的瘤骨 ，对于肿瘤侵犯髓腔的显示范围、边界的更为清晰 ，示肿瘤与皮质骨之间的透亮带方面较平片更为明确

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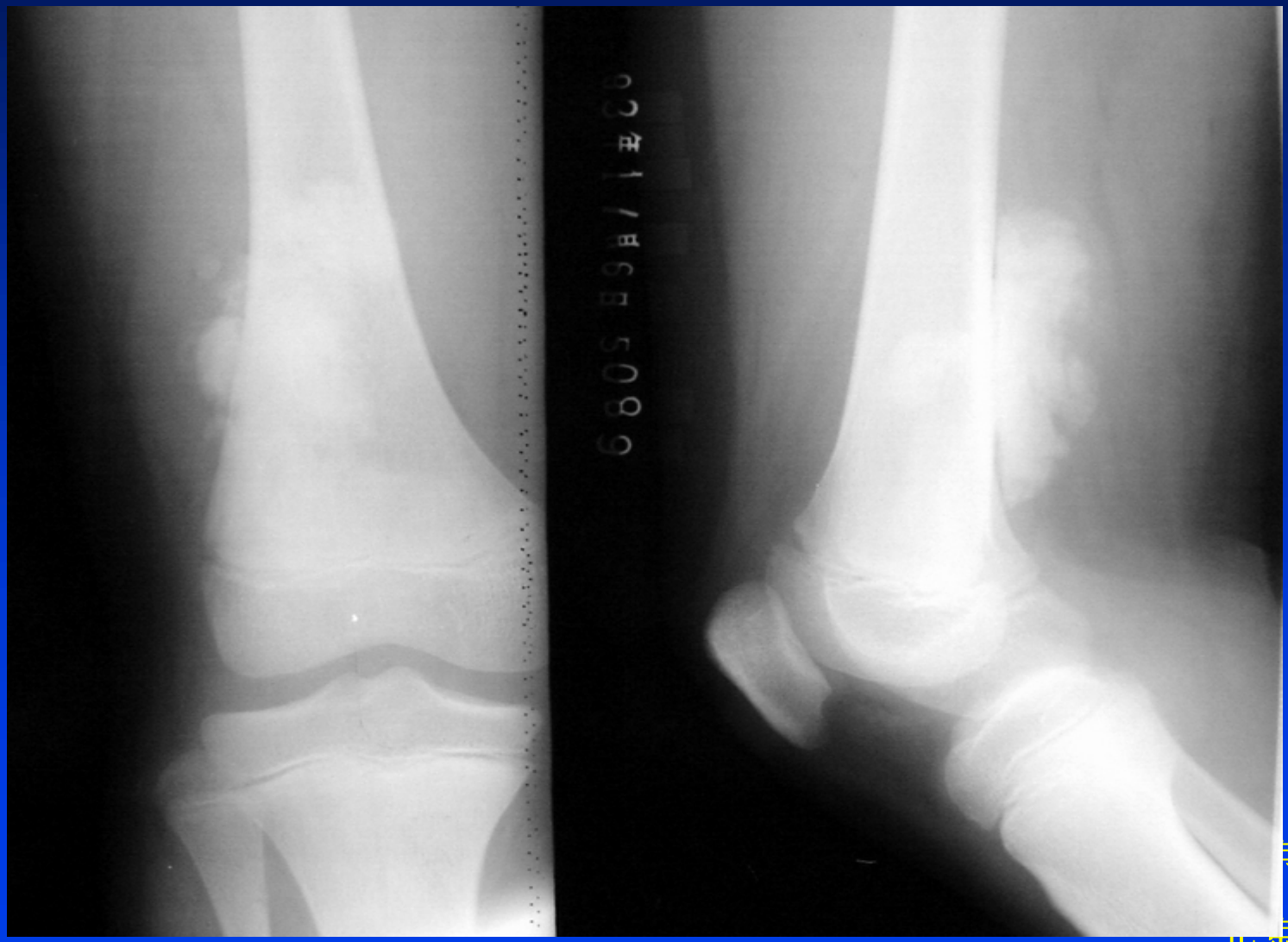

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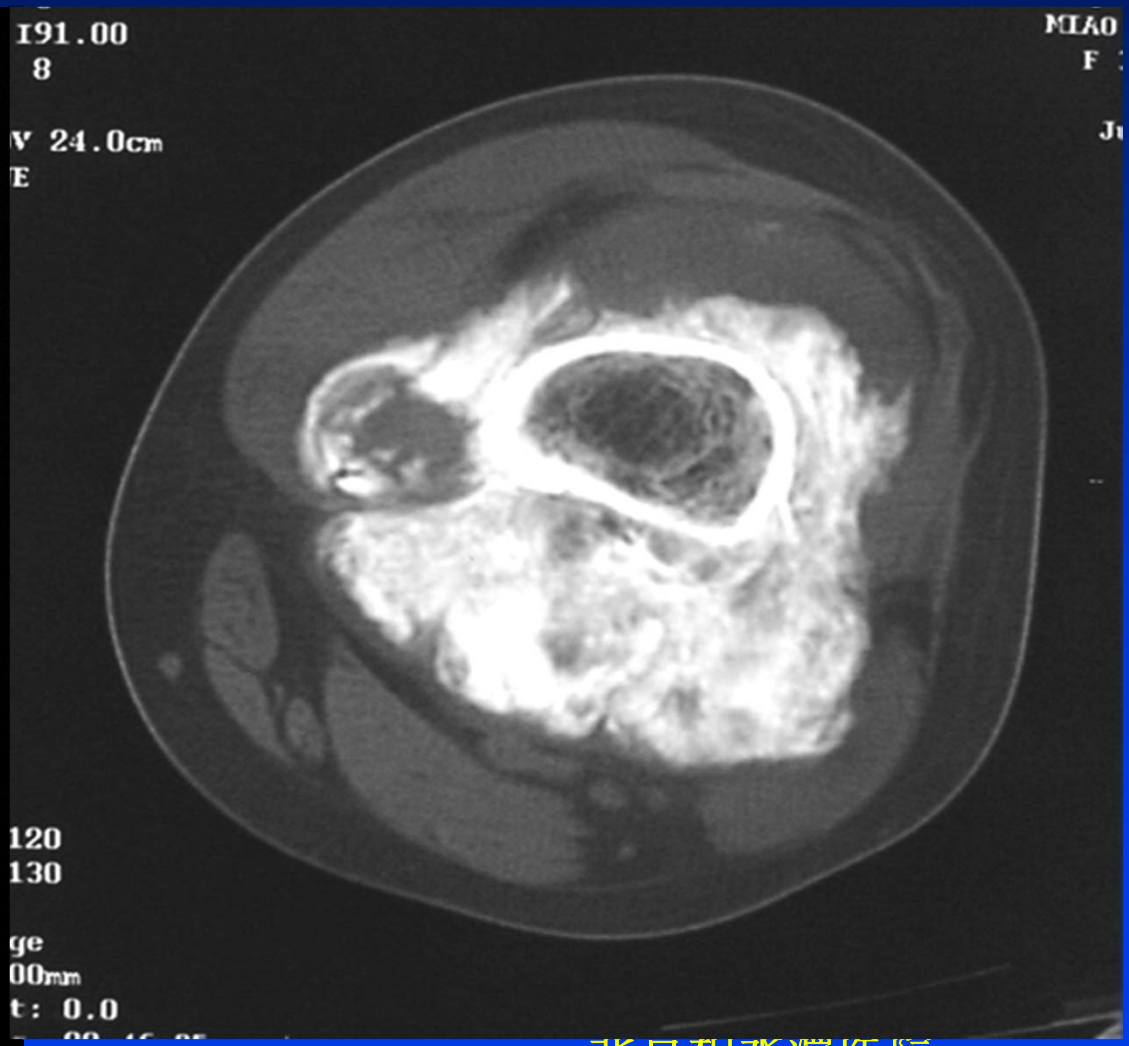

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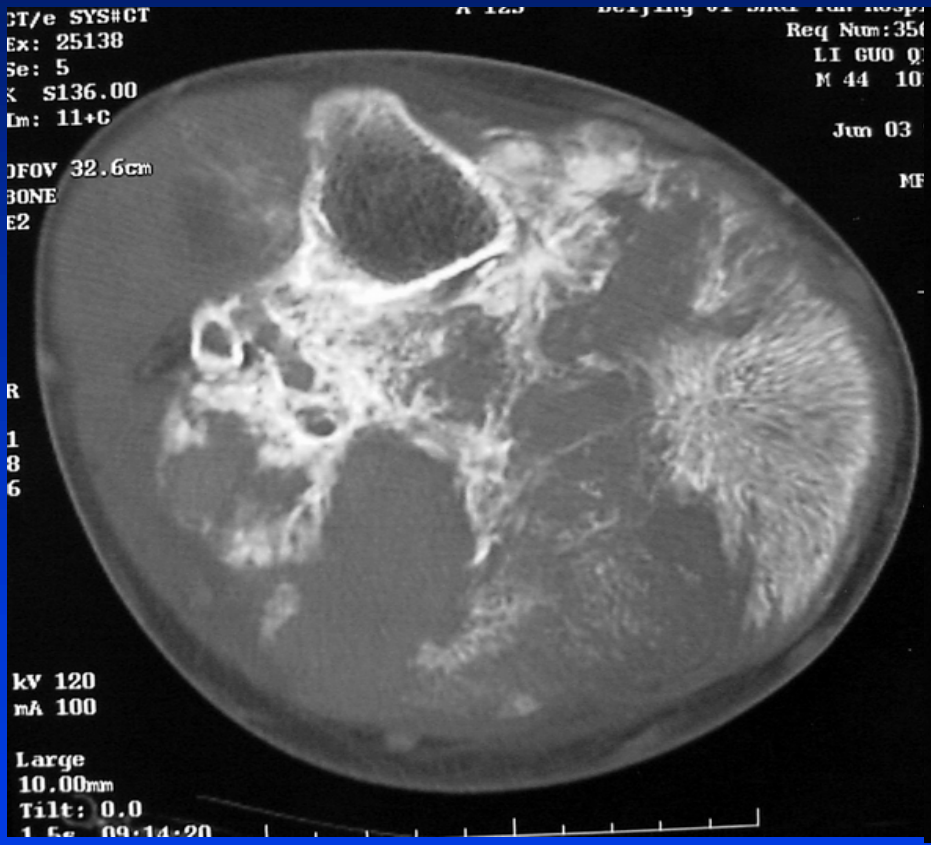

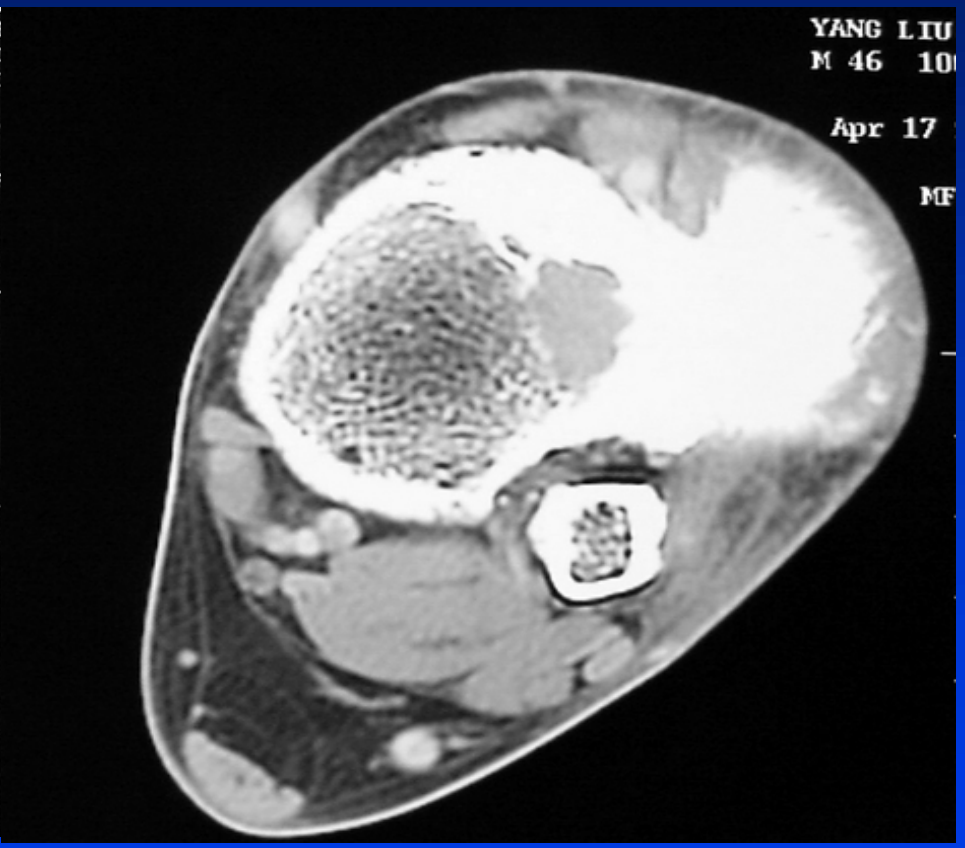

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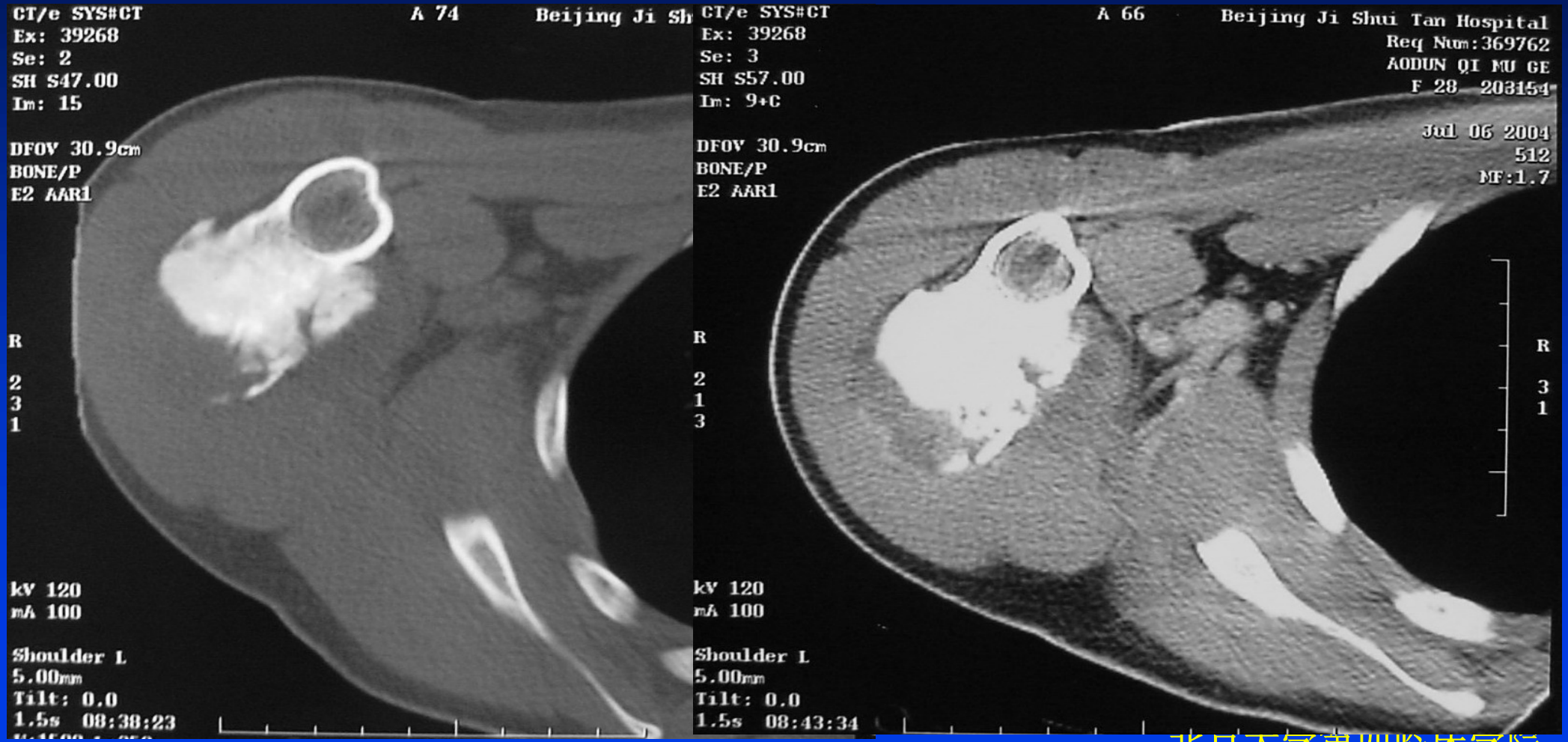

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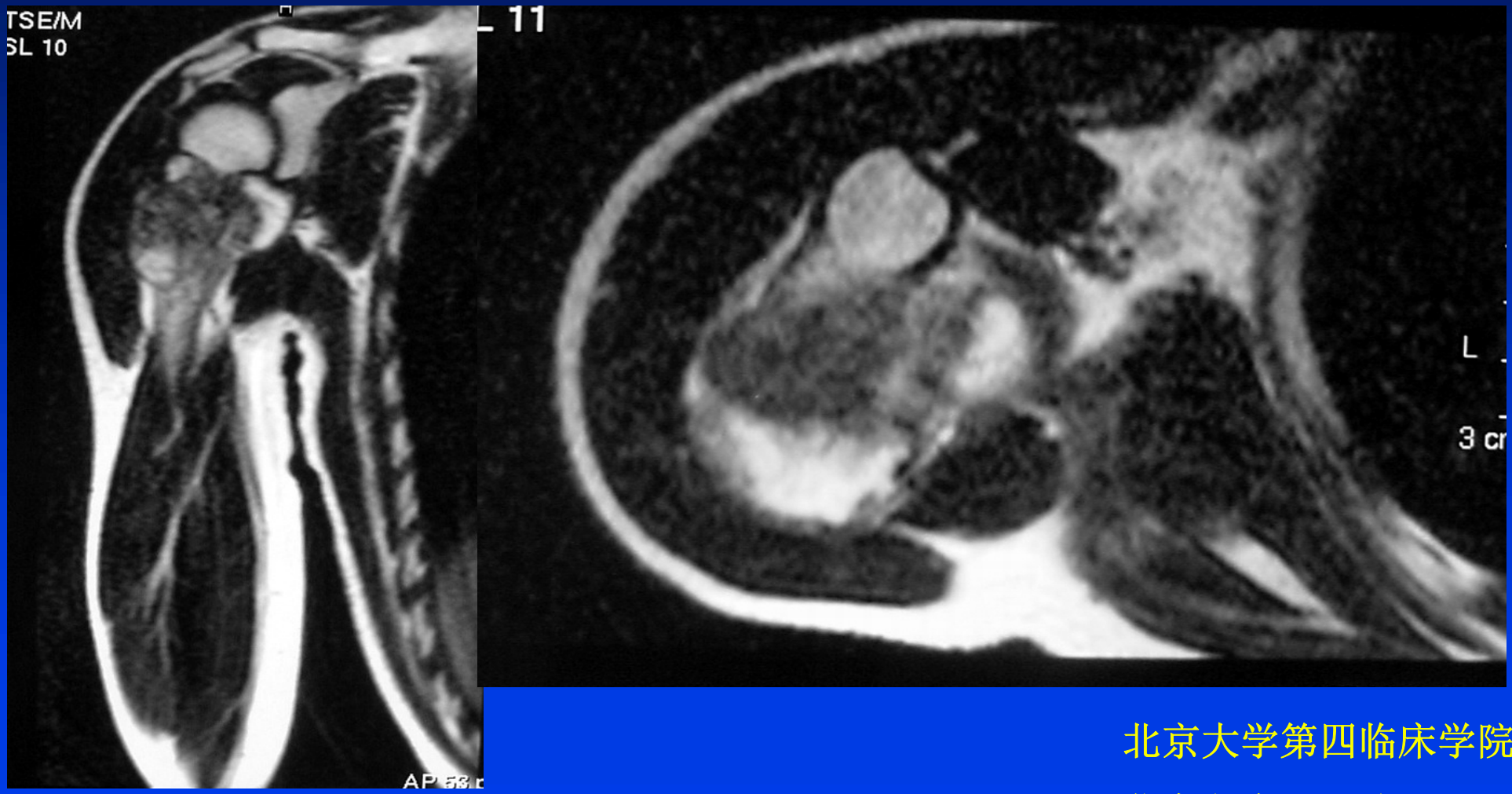

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骨膜骨肉瘤(periostal osteosarcoma)

- 骨膜骨肉瘤常与骨膜软骨肉瘤混淆
- 发病的年龄范围较大，但好发于20～30岁，男性略多于女性
- 发病部位严格局限于四肢长骨，绝大多数起源于胫骨和股骨

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骨膜骨肉瘤(periostal osteosarcoma)

- 影像学表现
- 限于骨皮质表面
- 肿瘤边缘Codman三角
- 病灶内有日光样骨针
- 髓腔内不受侵

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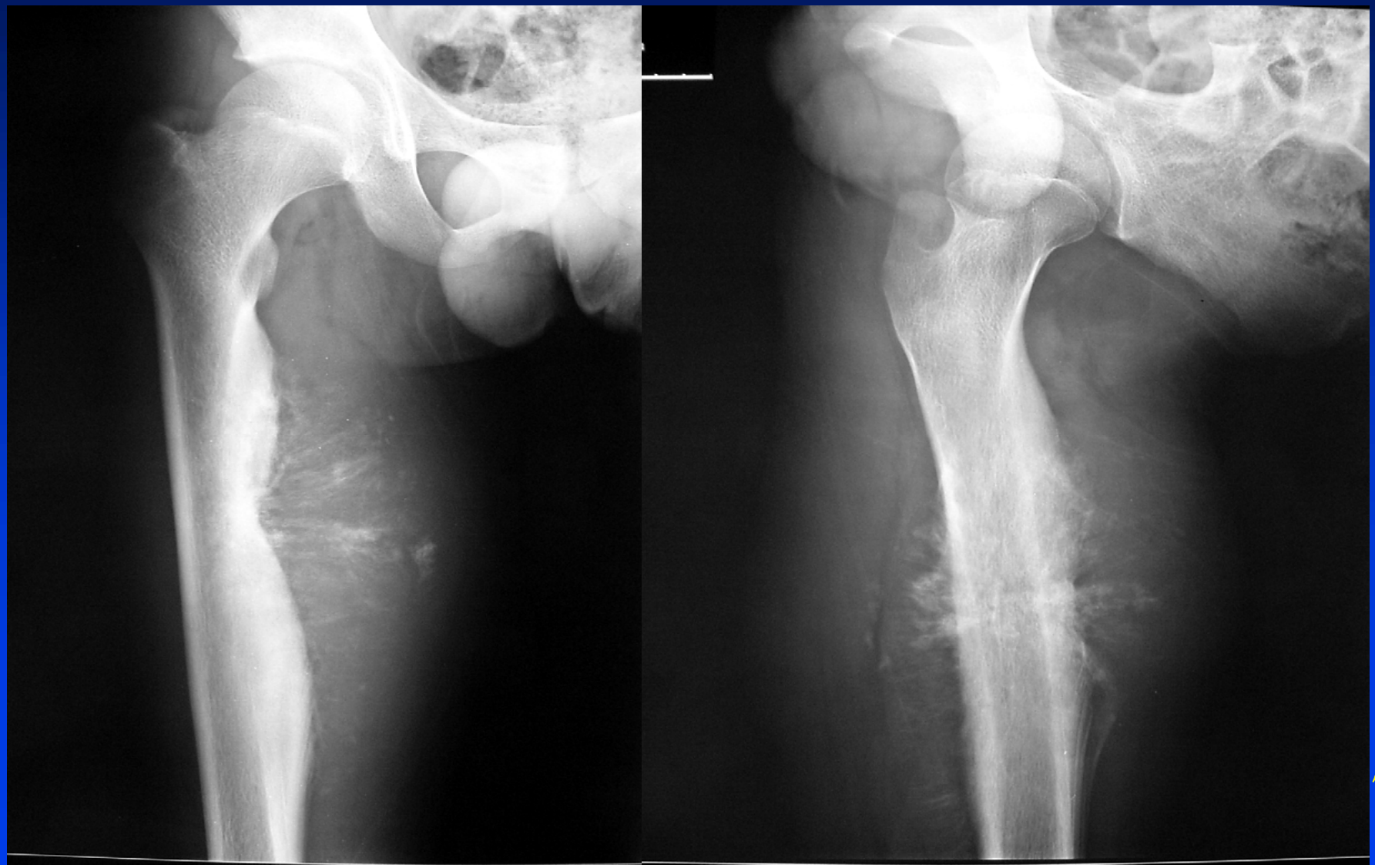
骨膜骨肉瘤(periostal osteosarcoma)



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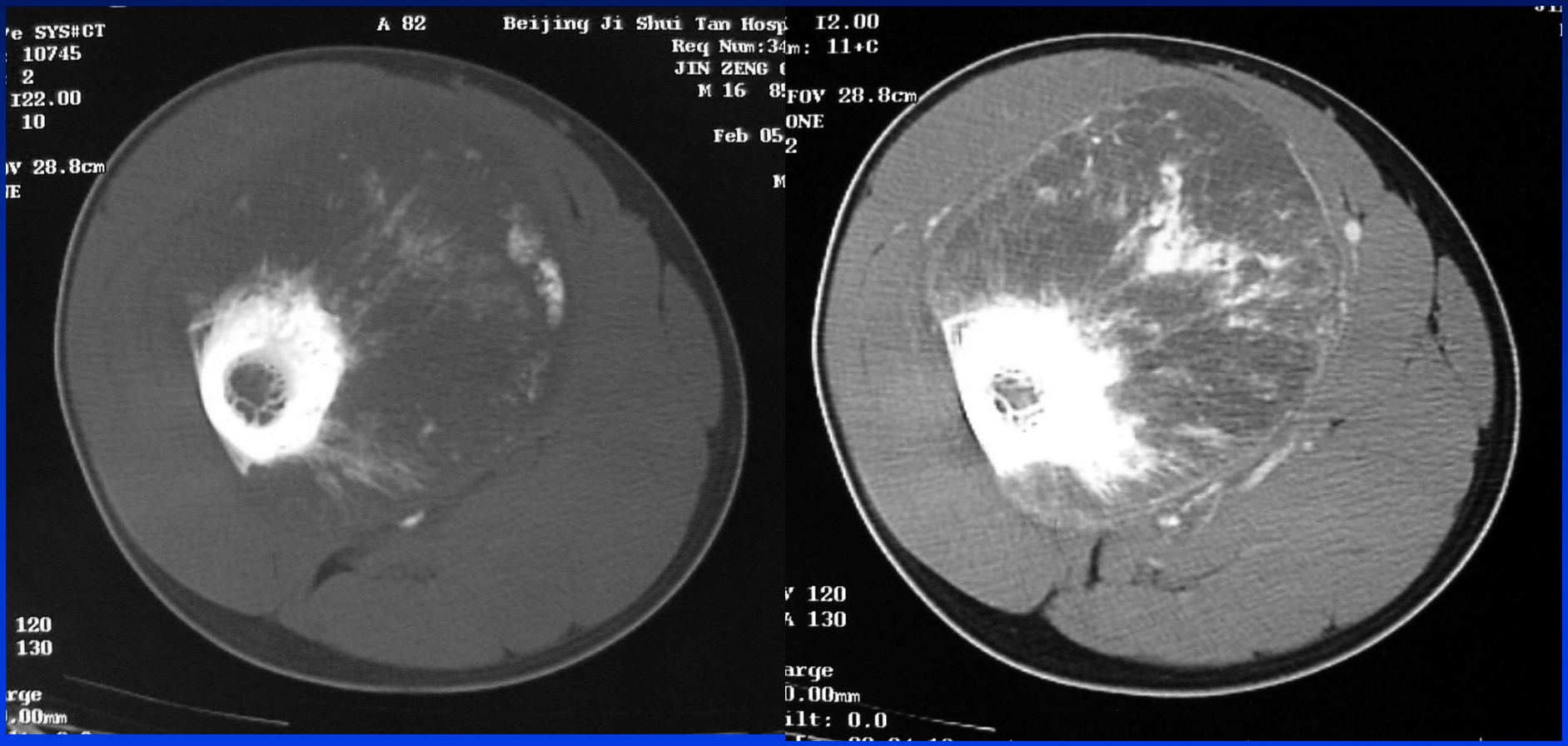
骨膜骨肉瘤(periostal osteosarcoma)



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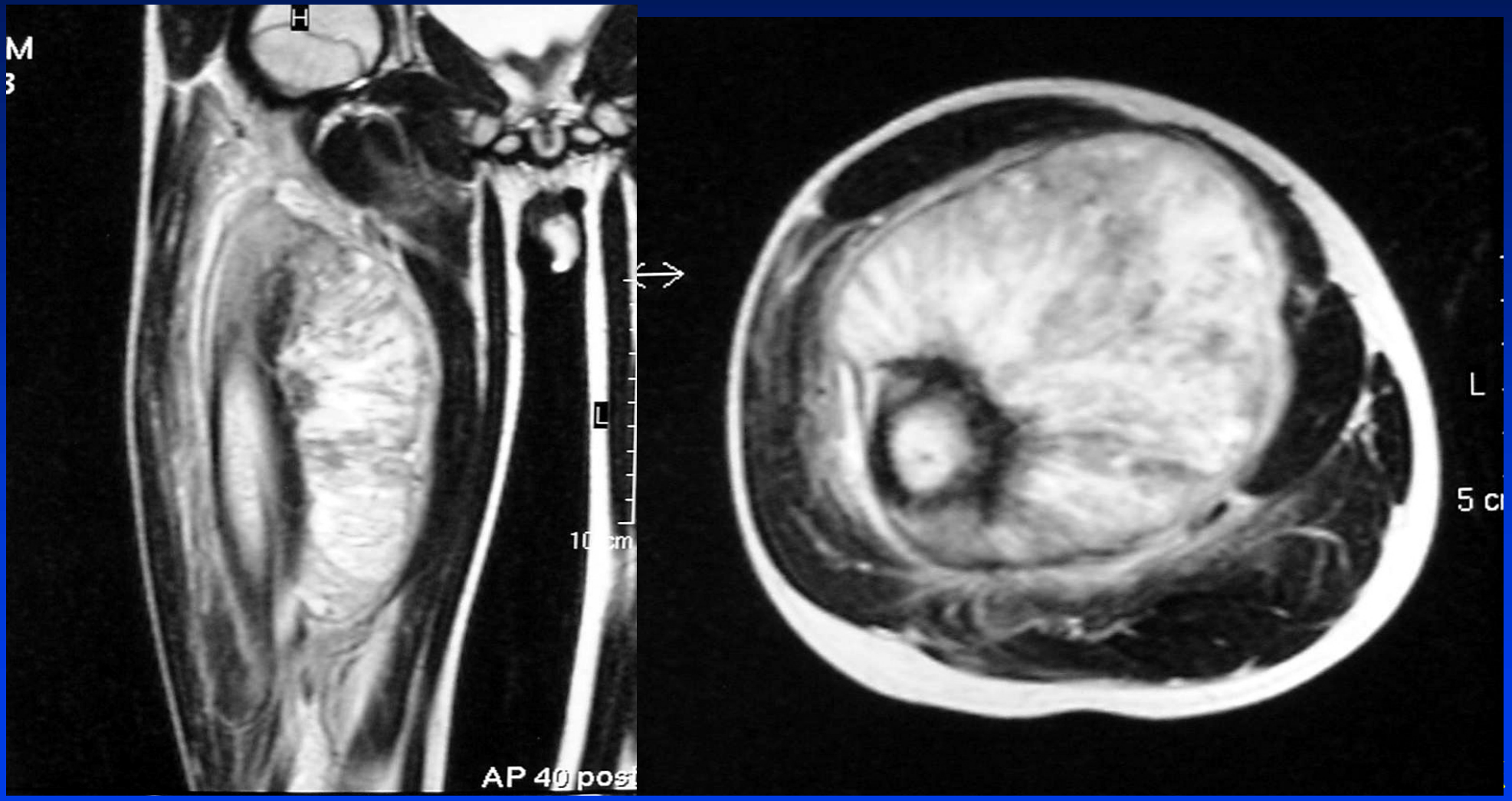
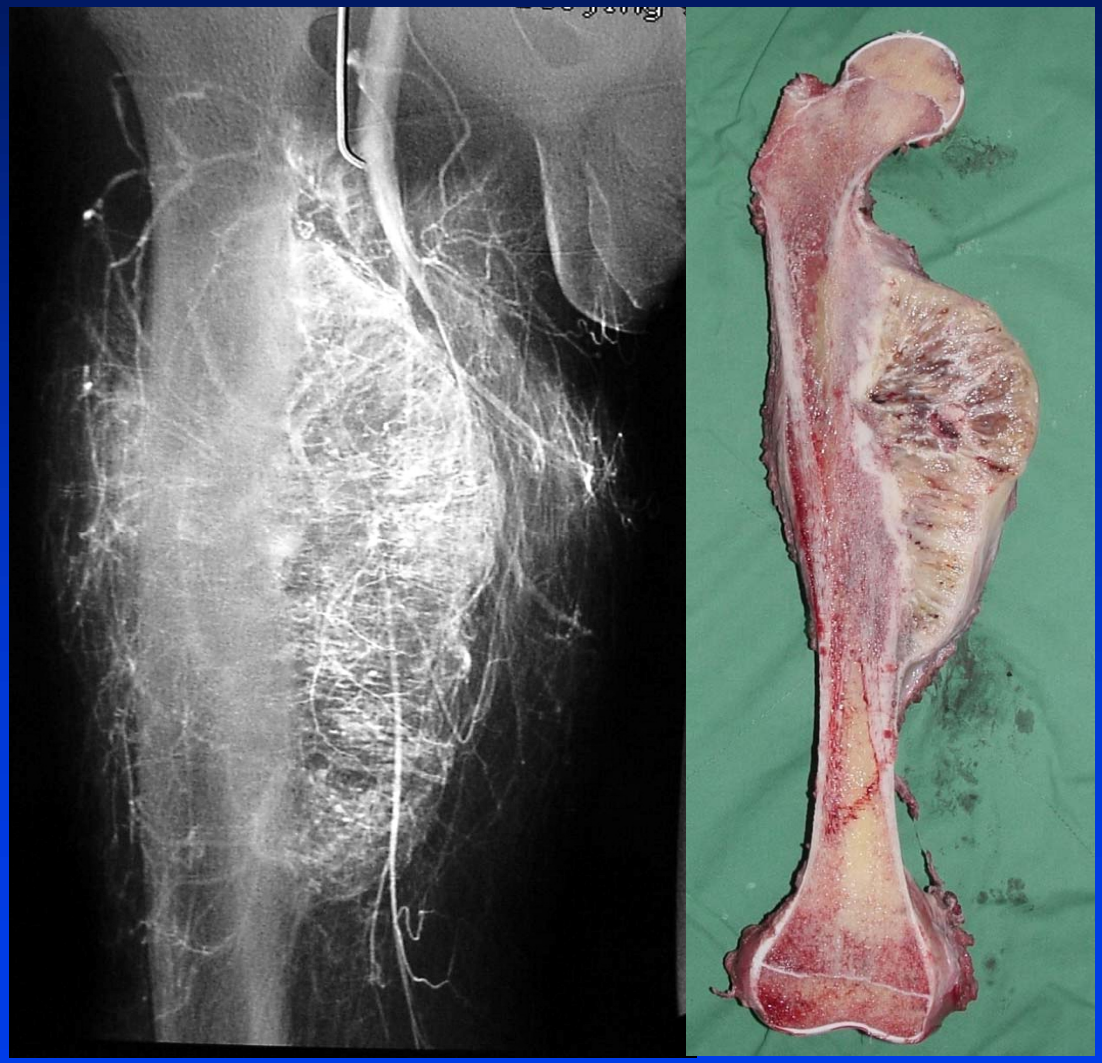
骨膜骨肉瘤(periostal osteosarcoma)



骨膜骨肉瘤(periostal osteosarcoma)



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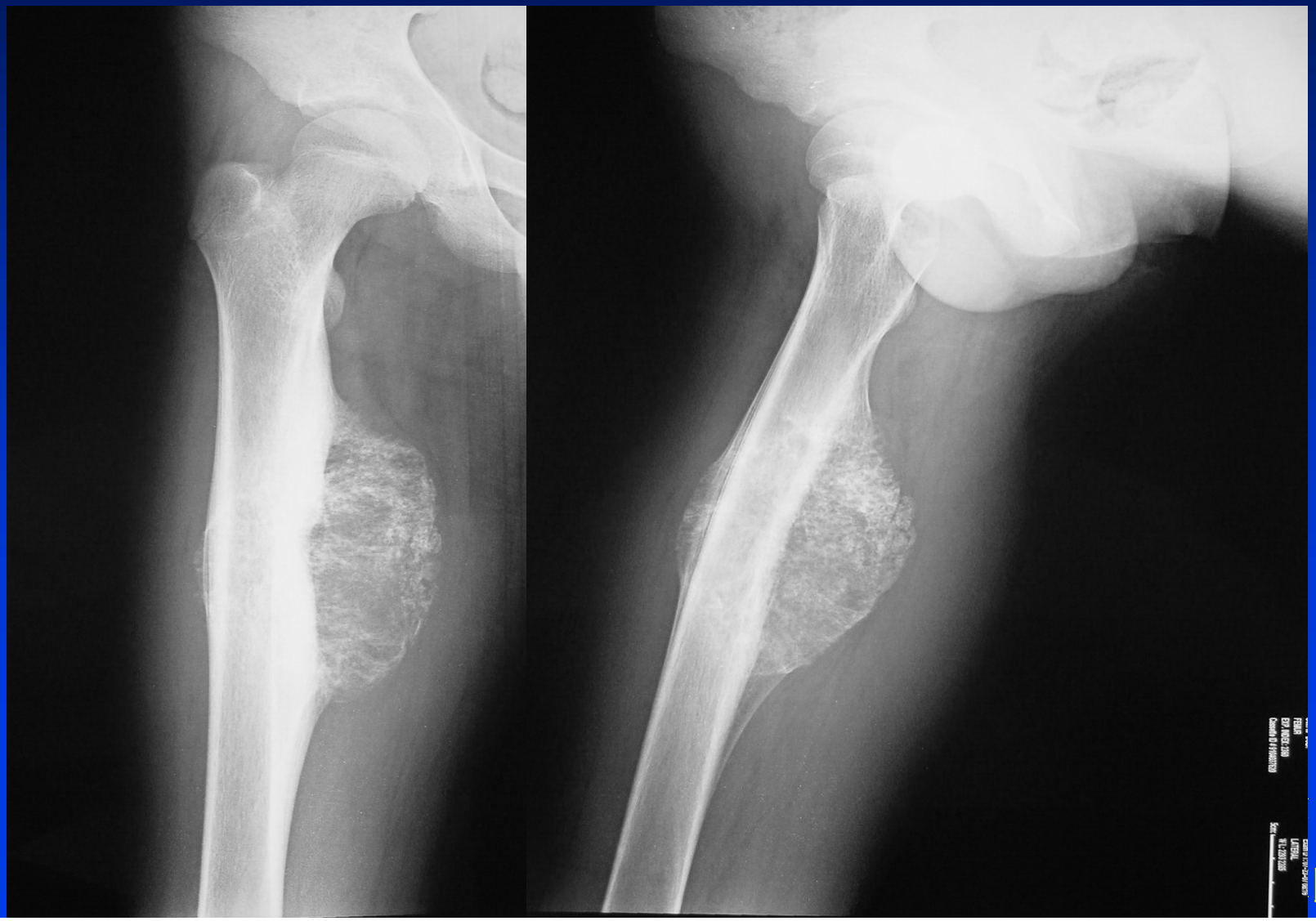
骨膜骨肉瘤(periostal osteosarcoma)



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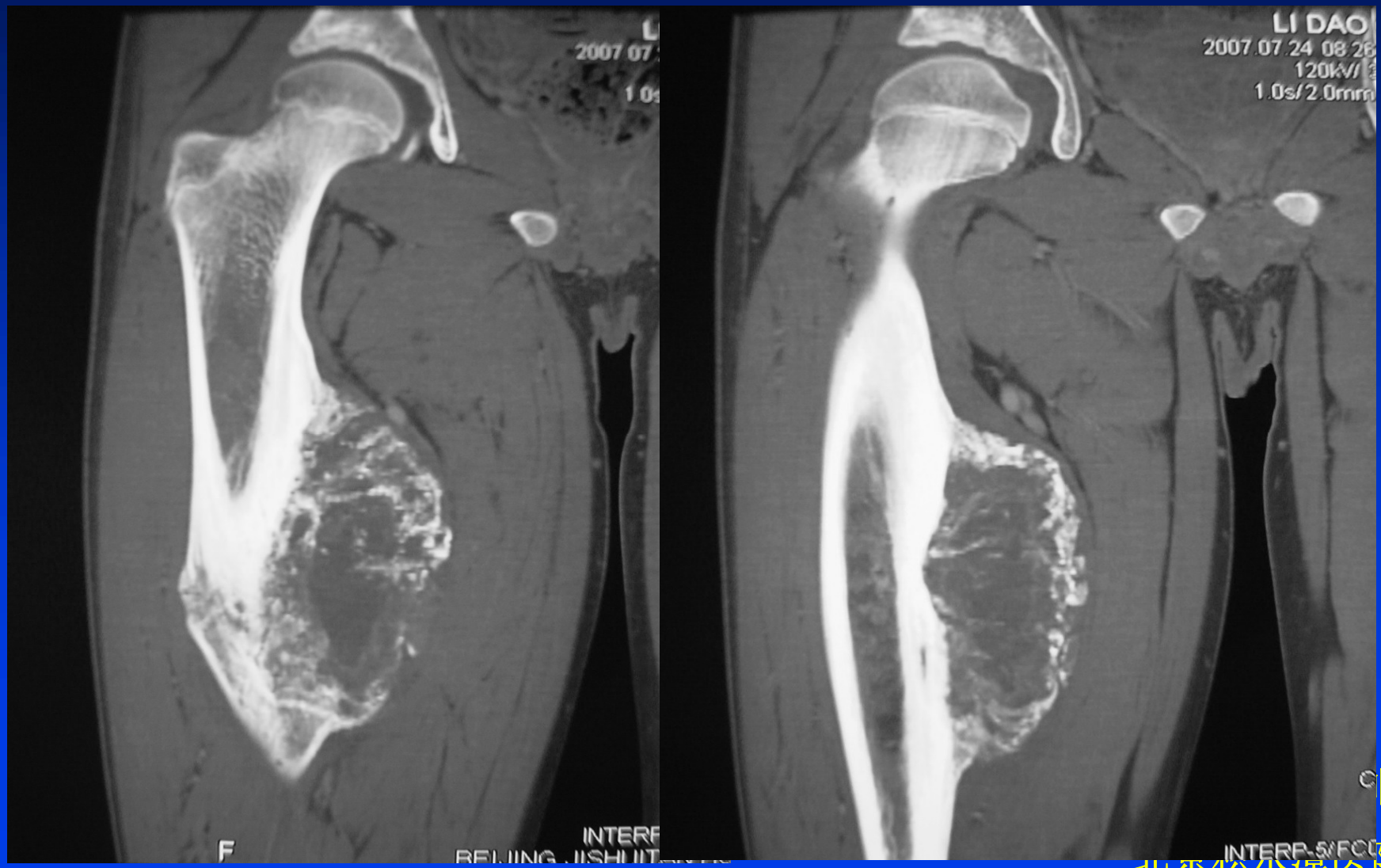

骨膜骨肉瘤(periostal osteosarcoma)

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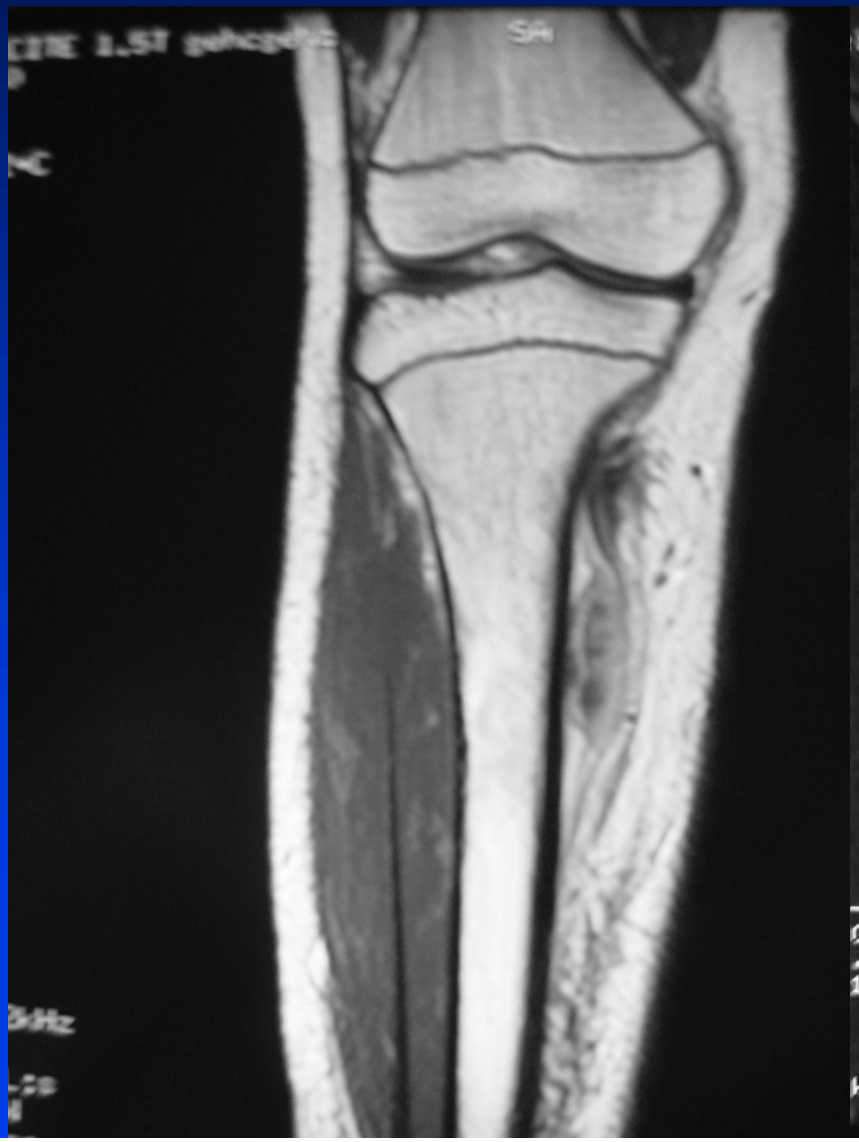

高度恶性浅表骨肉瘤(high-grade surface osteosarcoma)

- 高度恶性表面骨肉瘤是表面骨肉瘤最少见的亚型
- 好发于10～30岁，男性明显高于女性
- 好发于四肢的长骨，股骨为最常见部位
- 宽基底
- 软组织肿物，可见骨化
- 皮质内受侵

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高度恶性浅表骨肉瘤(high-grade surface osteosarcoma)

- 影像学表现
- 肿瘤位于长骨骨干表面，呈软组织肿块，内可见瘤骨
- 少侵犯髓腔
- 可有不规则骨膜反应

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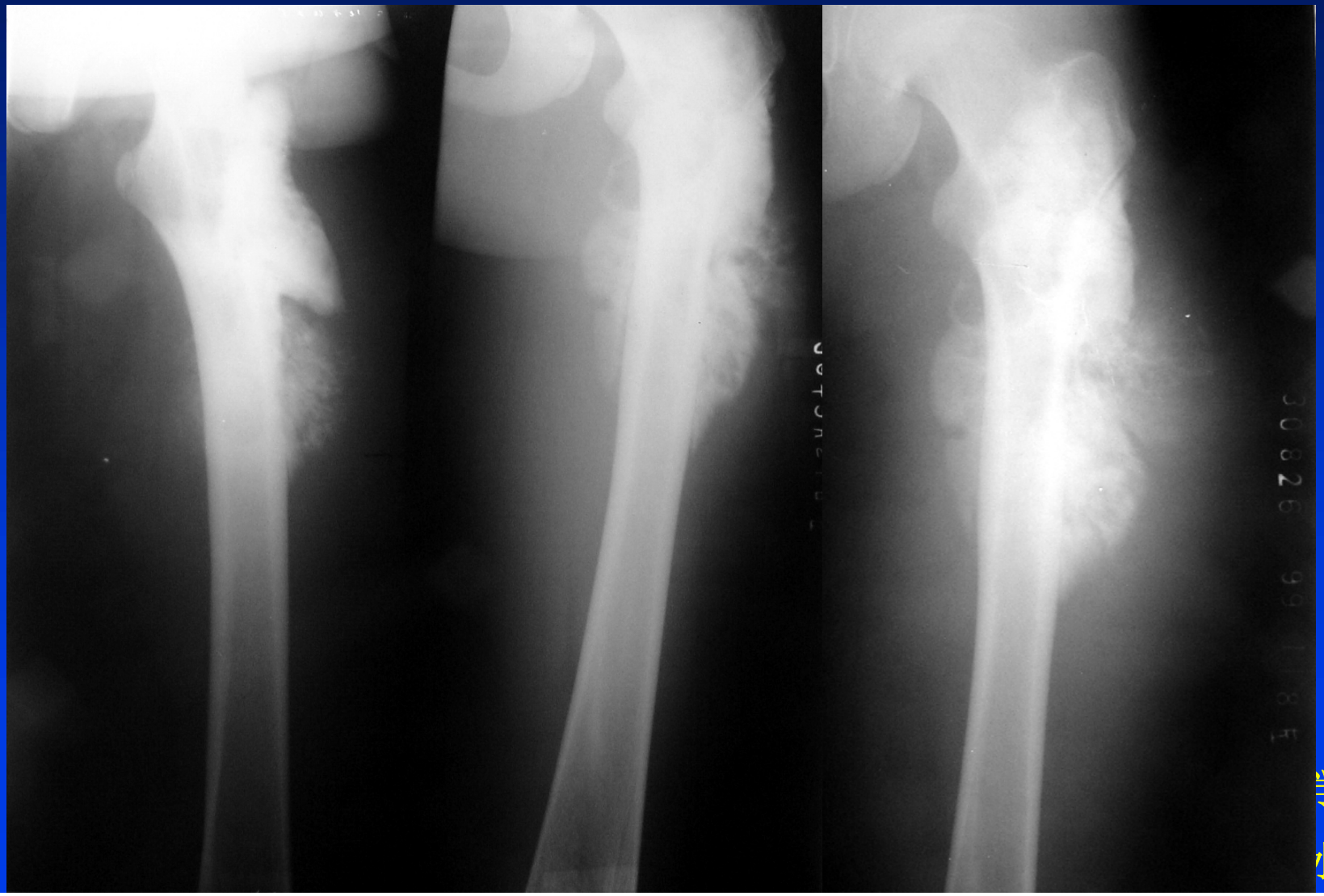

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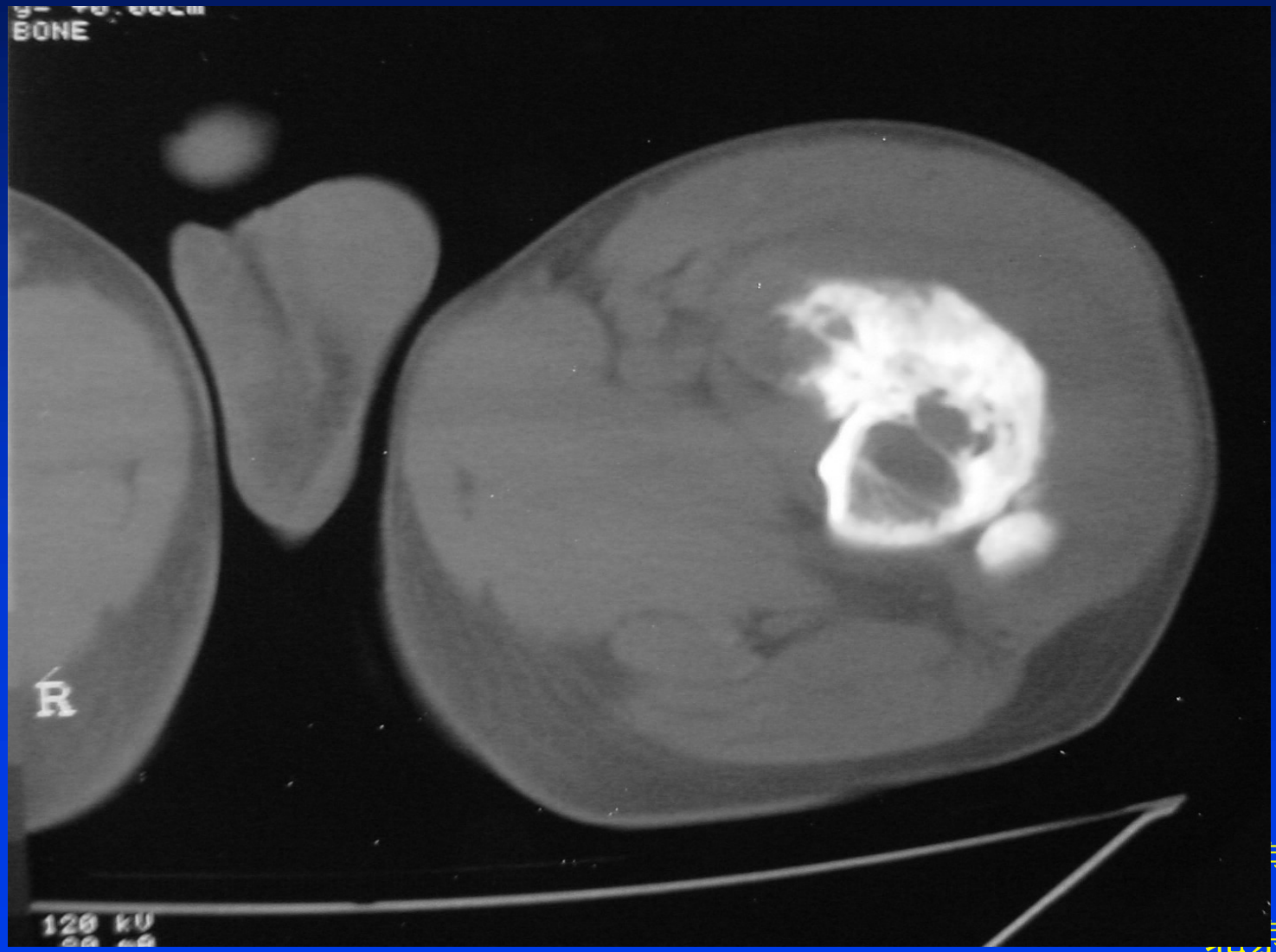

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高度恶性浅表骨肉瘤(high-grade surface osteosarcoma)

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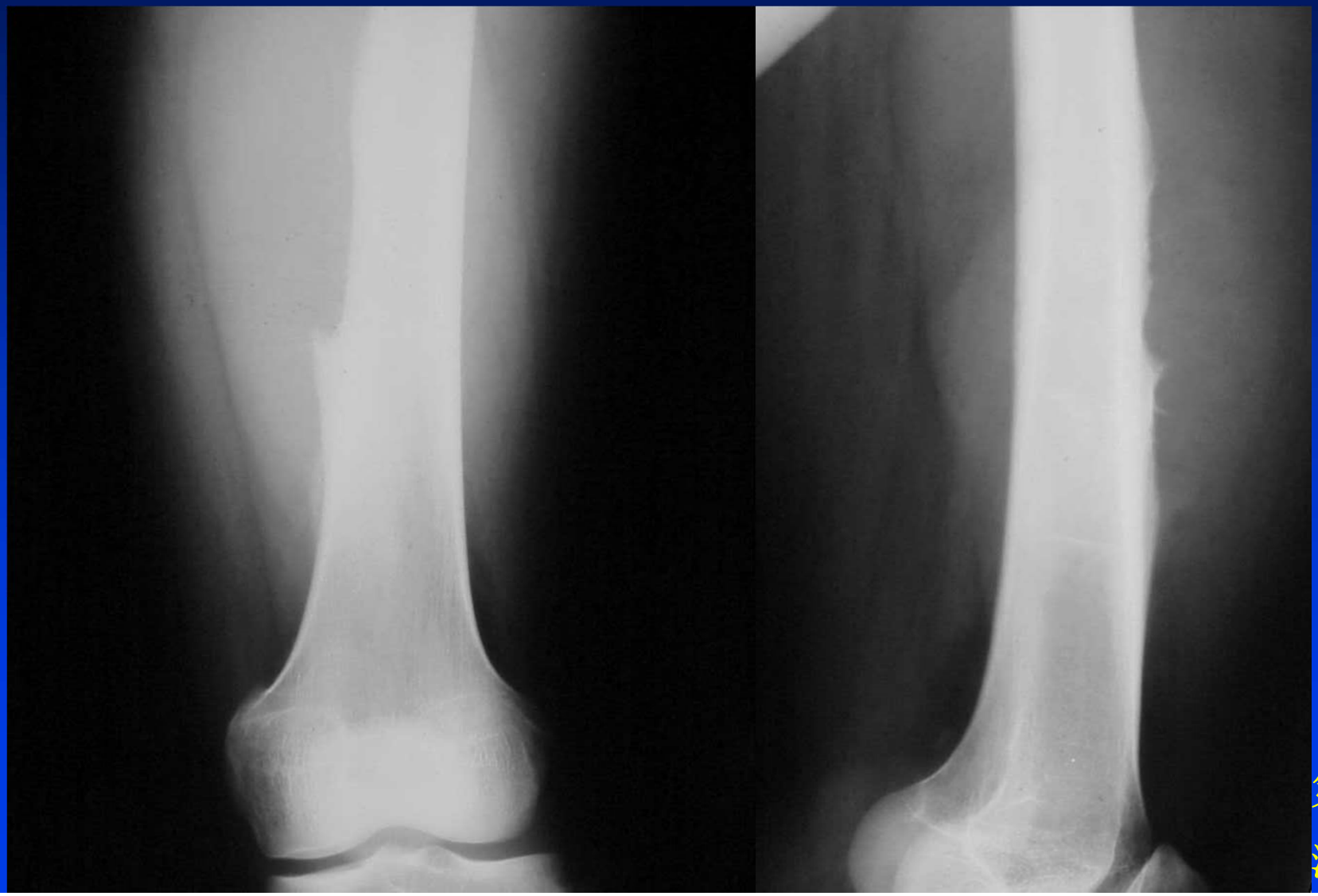
高度恶性浅表骨肉瘤(high-grade surface osteosarcoma)



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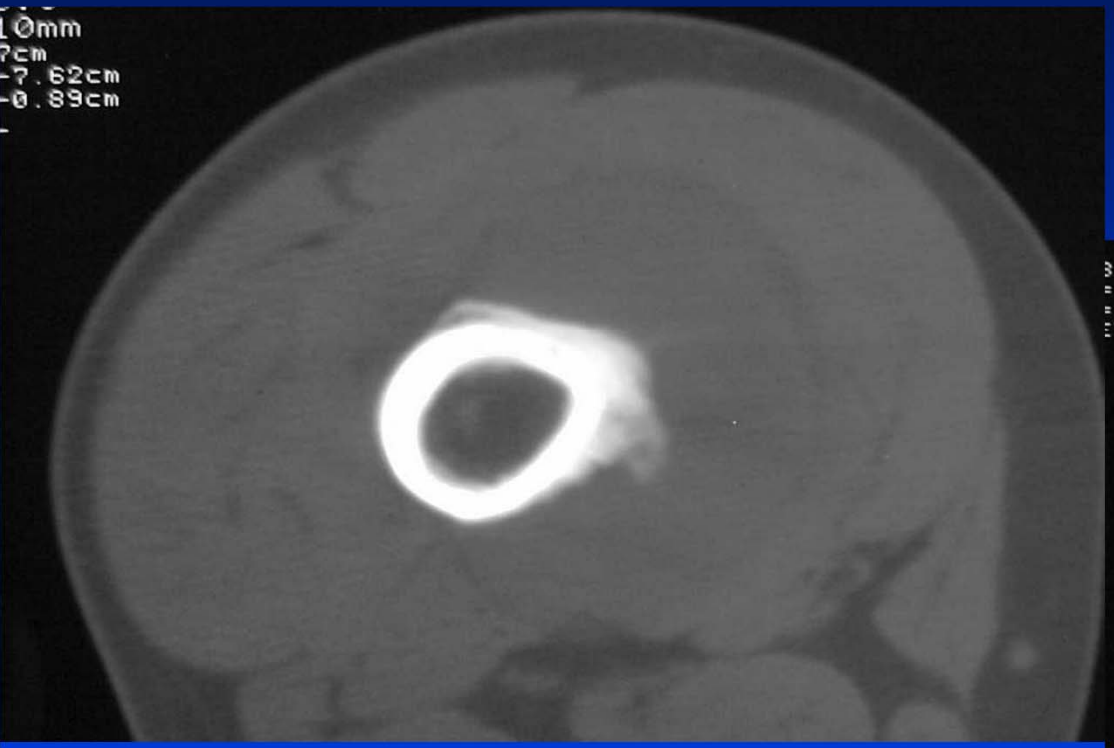

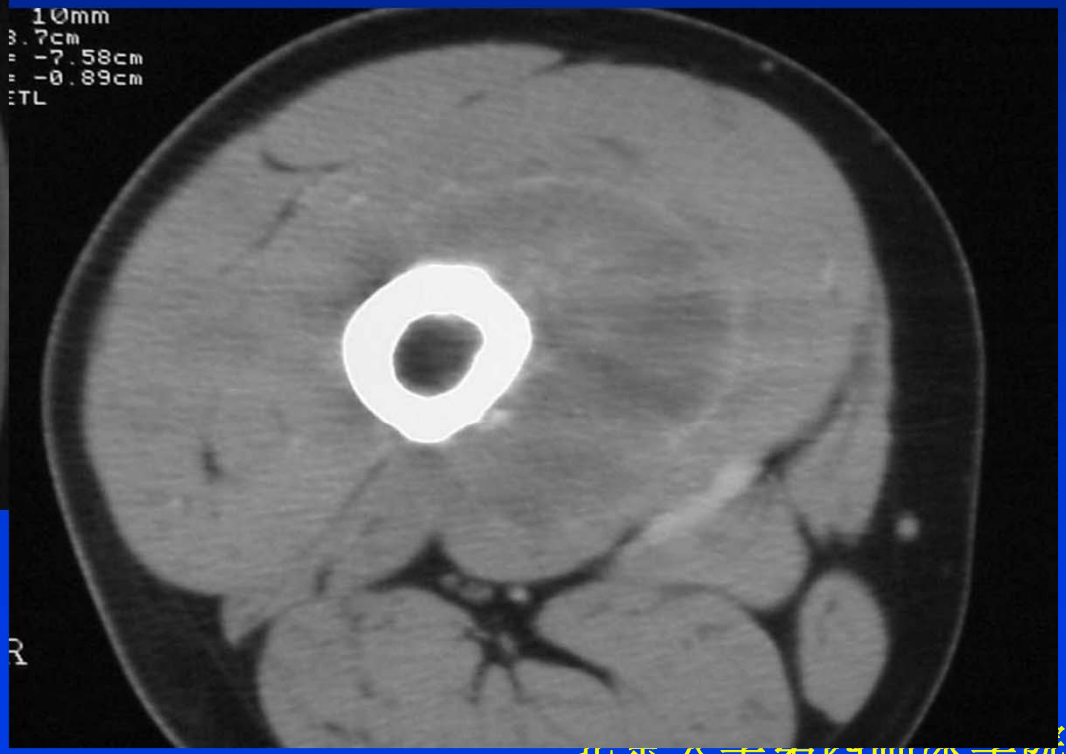

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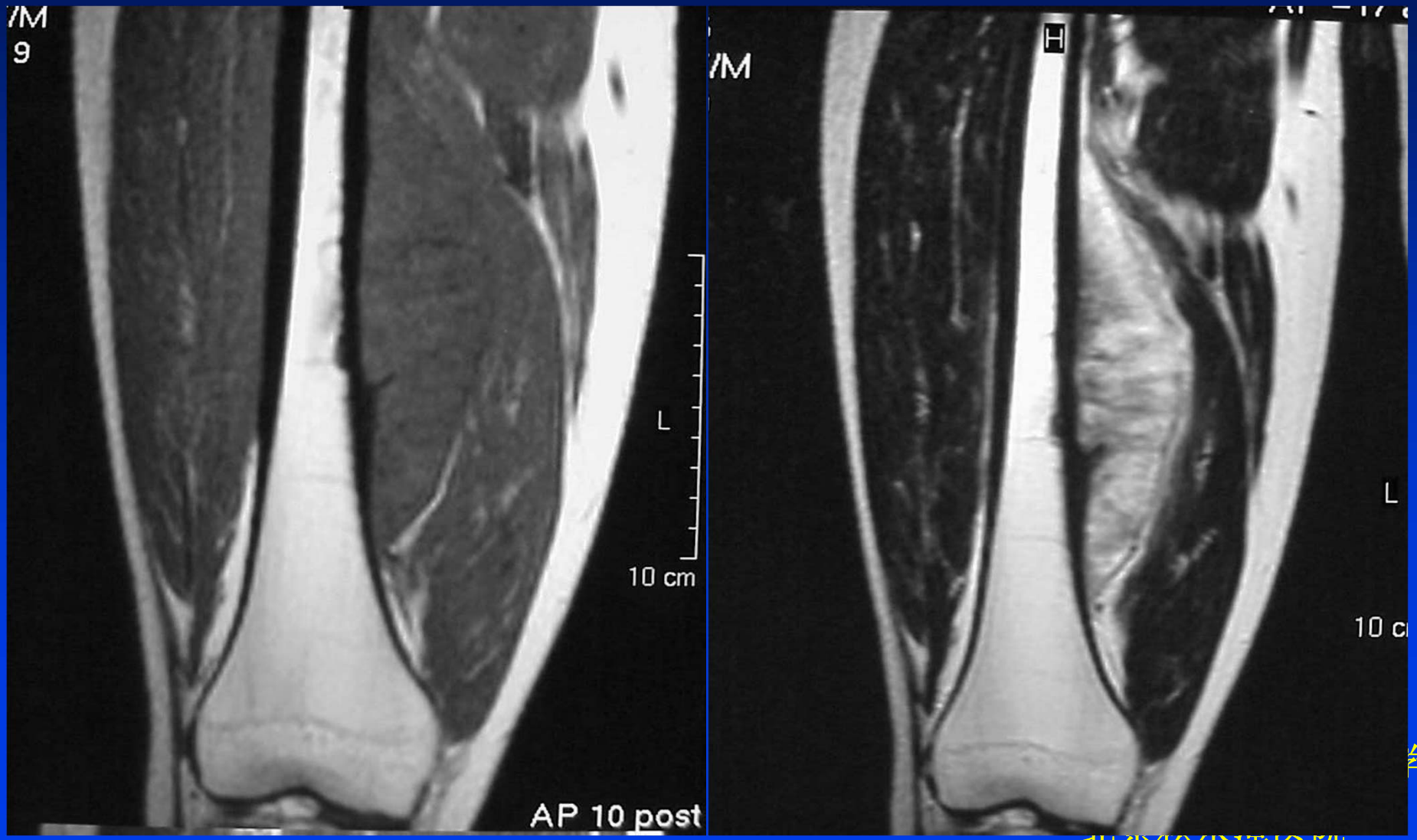

骨肉瘤病 （Osteosarcomatosis）

- 文献中提出骨肉瘤病起源于多潜能间叶组织。骨肉瘤病的病因可能为先天性、慢性、系统性、毒性或致癌性物质长期作用于骨髓，导致广泛成骨性骨营养障碍的结果

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骨肉瘤病 （Osteosarcomatosis）

- 骨肉瘤病，又称多中心骨肉瘤病，较为罕见 ，分为三型
- Ⅰ型是发生在年轻患者的同时性病变
- Ⅱ型发生在成人局限中轴骨同时性病变
- Ⅲ型异时性病变，需与转移瘤相鉴别

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骨肉瘤病 （Osteosarcomatosis）

- 多发病灶多呈圆形、椭圆形或分叶状，位于长骨骨髓腔内。而絮状的高密度影像，多发生在椎体
- 多发病灶周围观察不到软组织肿块影像。位于四肢长骨骨端的病变呈现高密度灶

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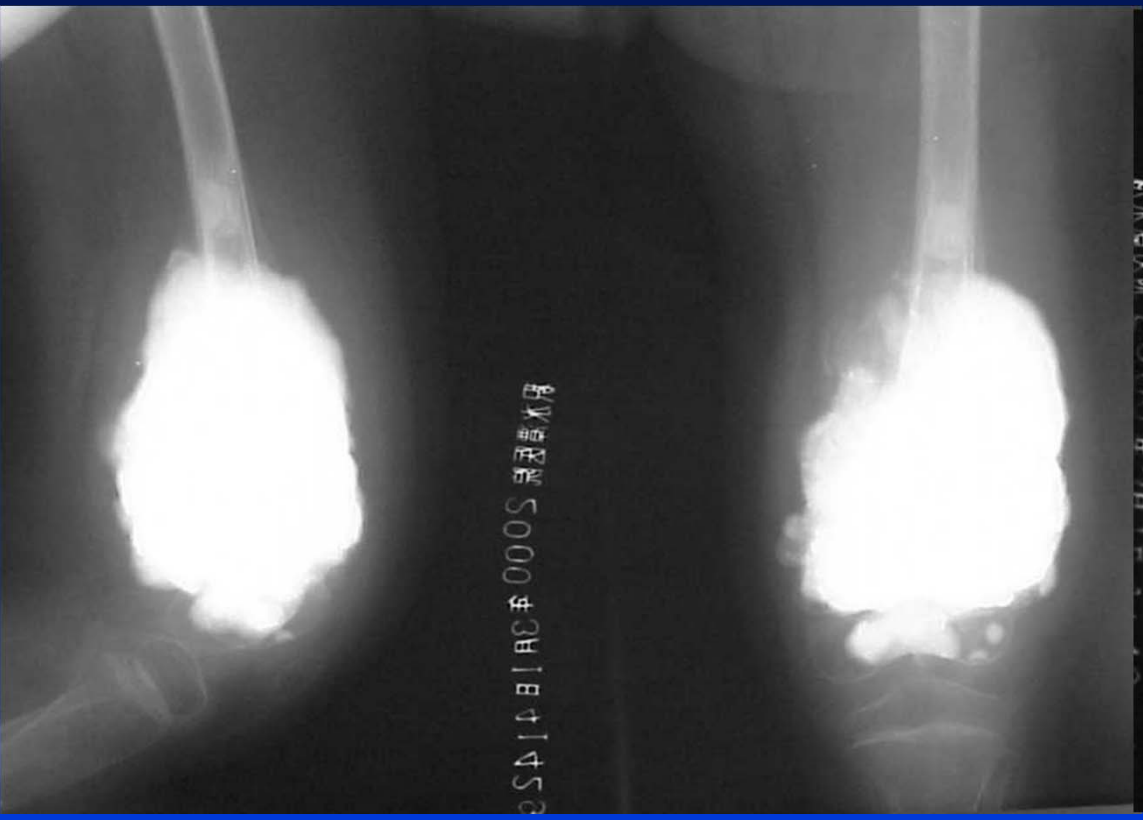
骨肉瘤病 （Osteosarcomatosis）



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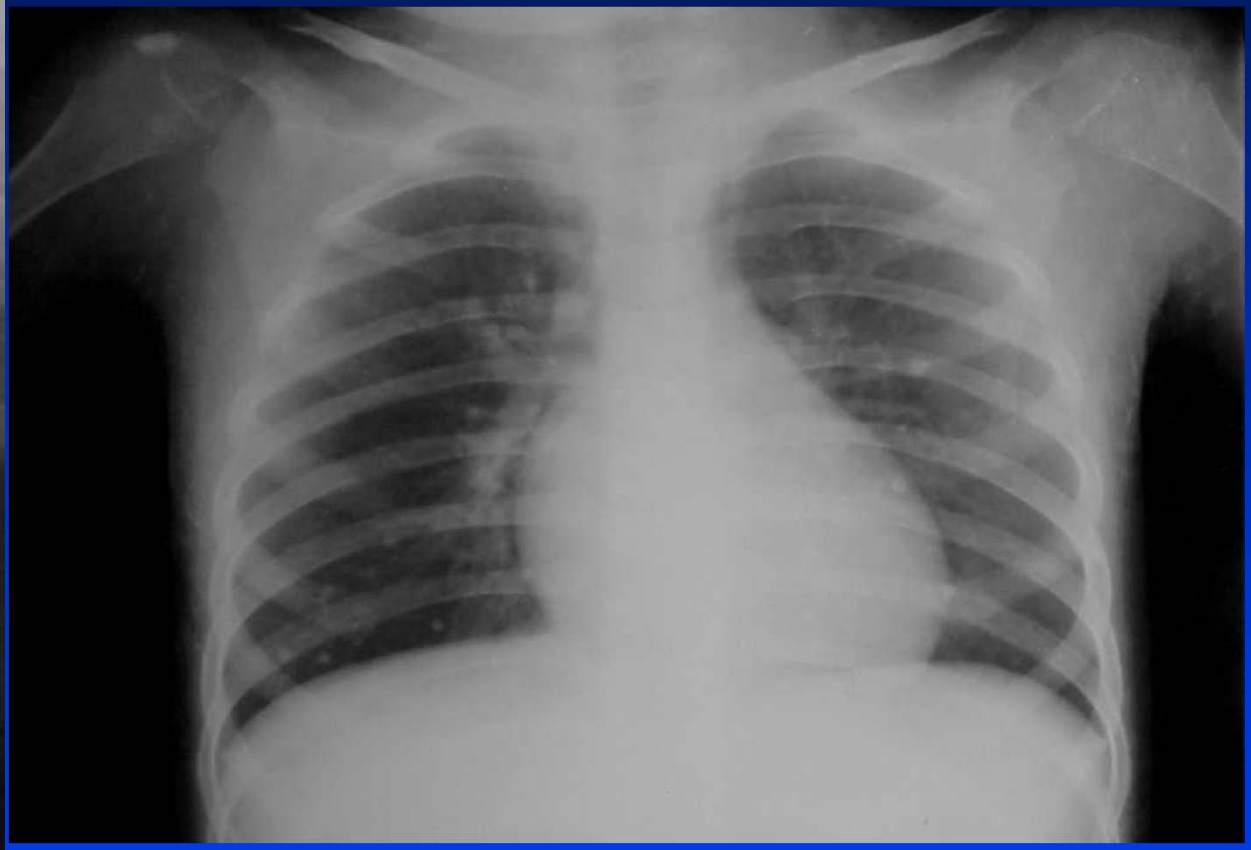
骨肉瘤病 （Osteosarcomatosis）



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骨肉瘤病 （Osteosarcomatosis）

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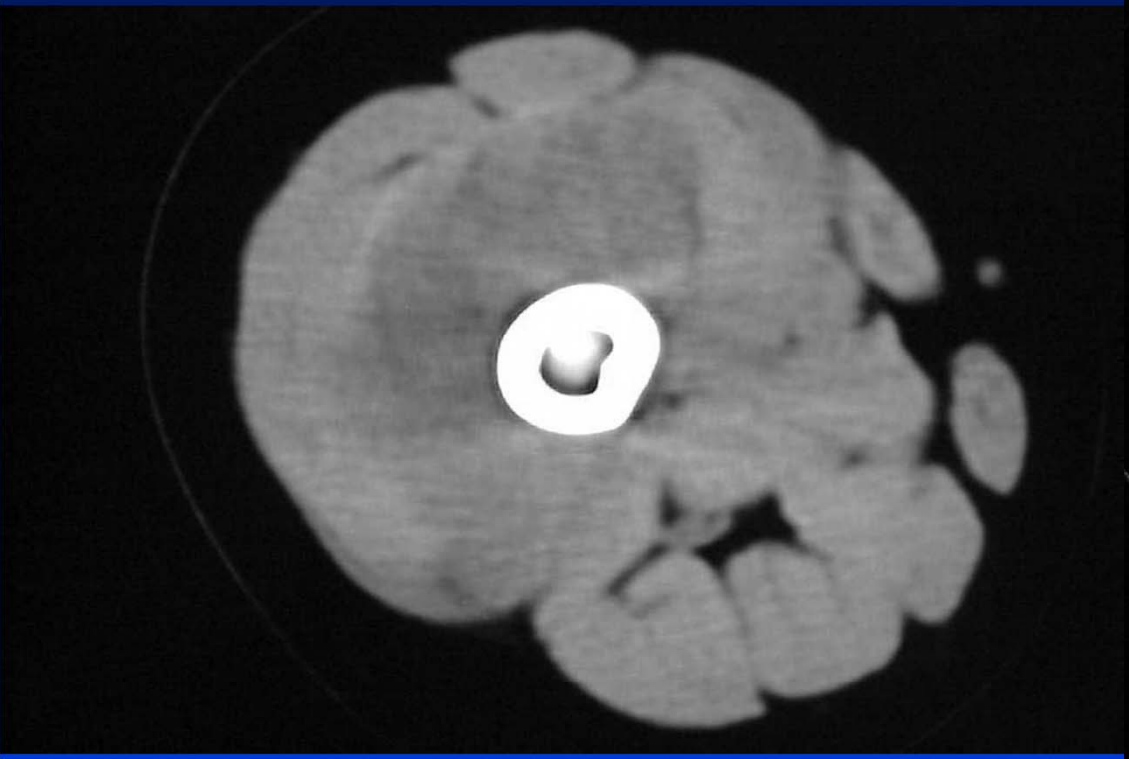

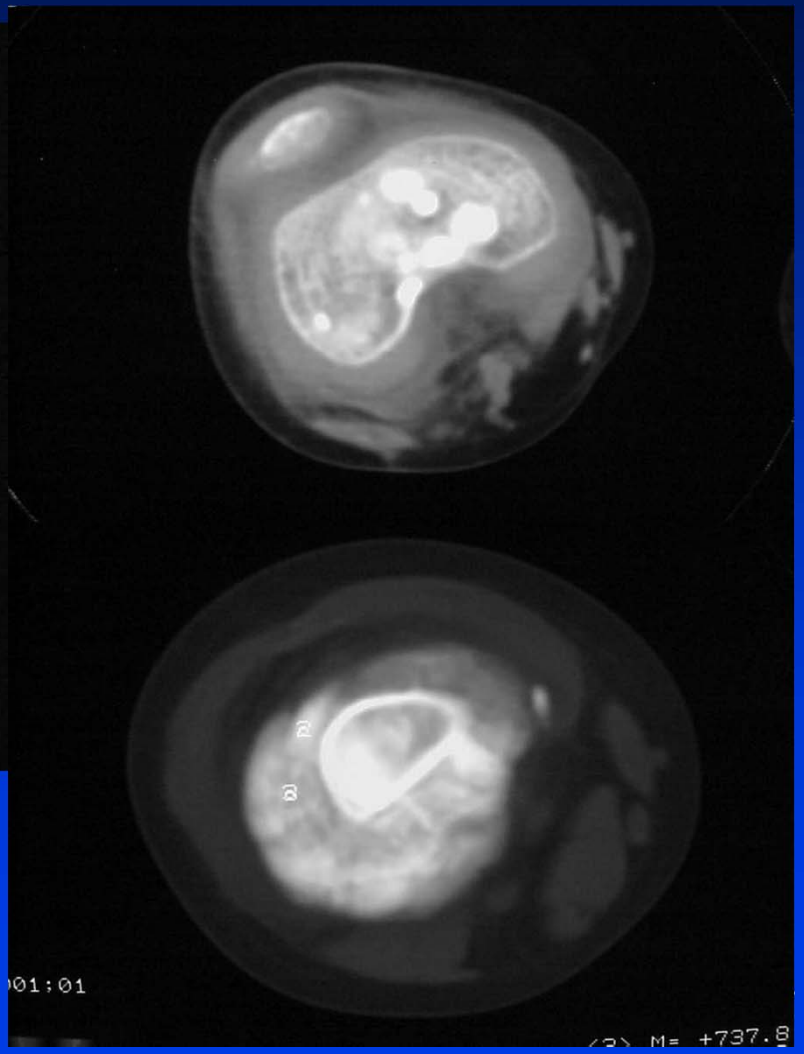

骨肉瘤病 （Osteosarcomatosis）

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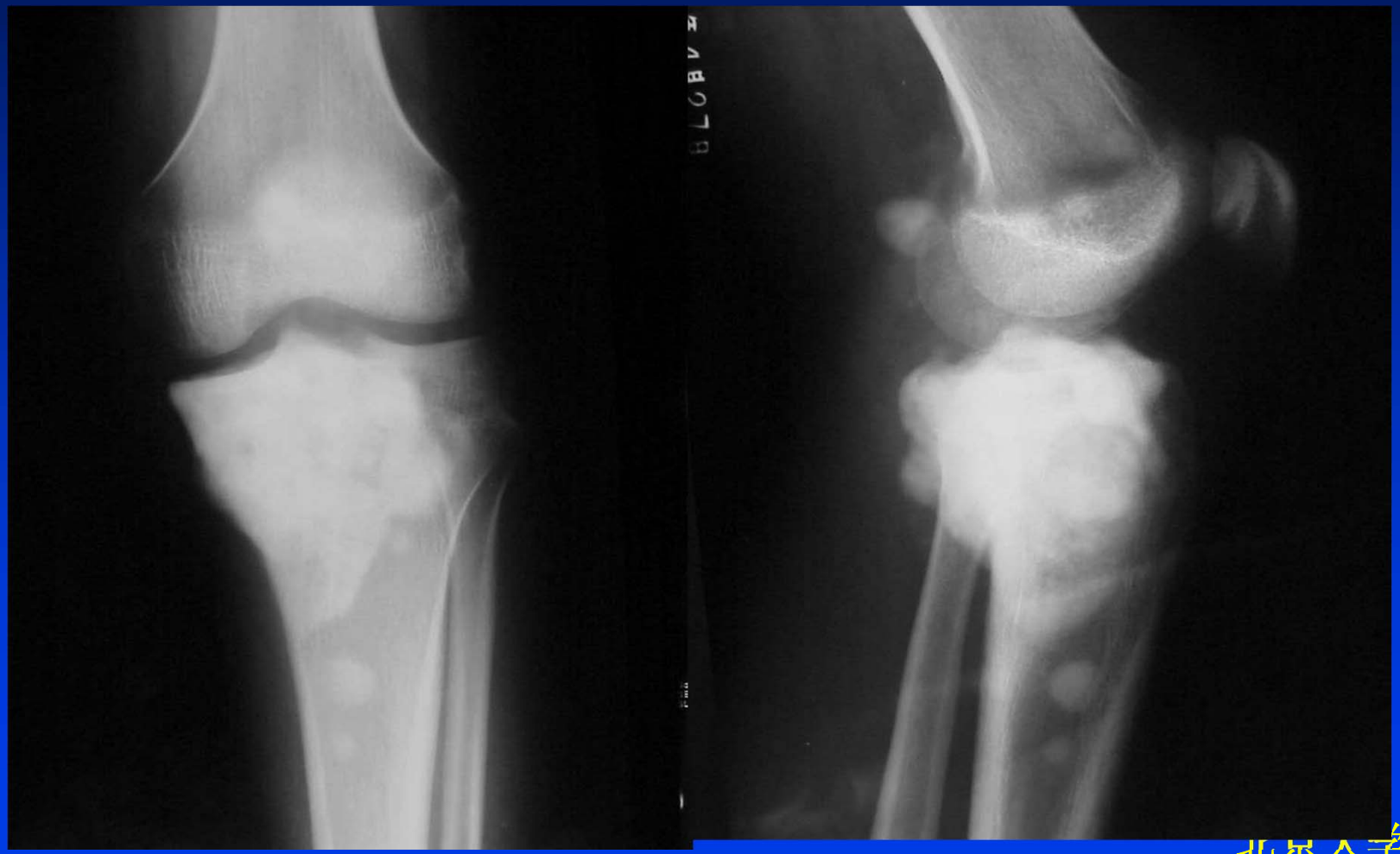

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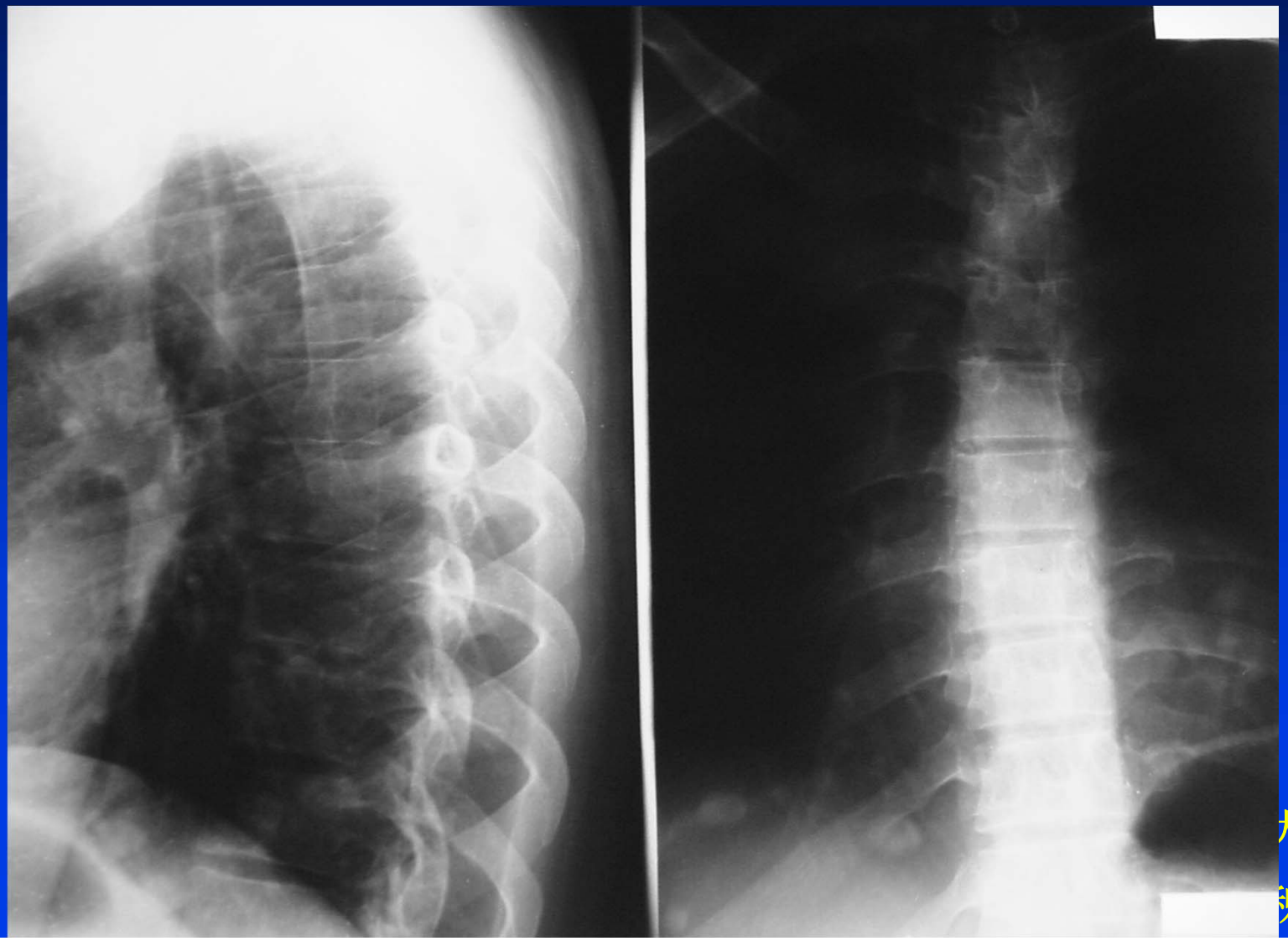

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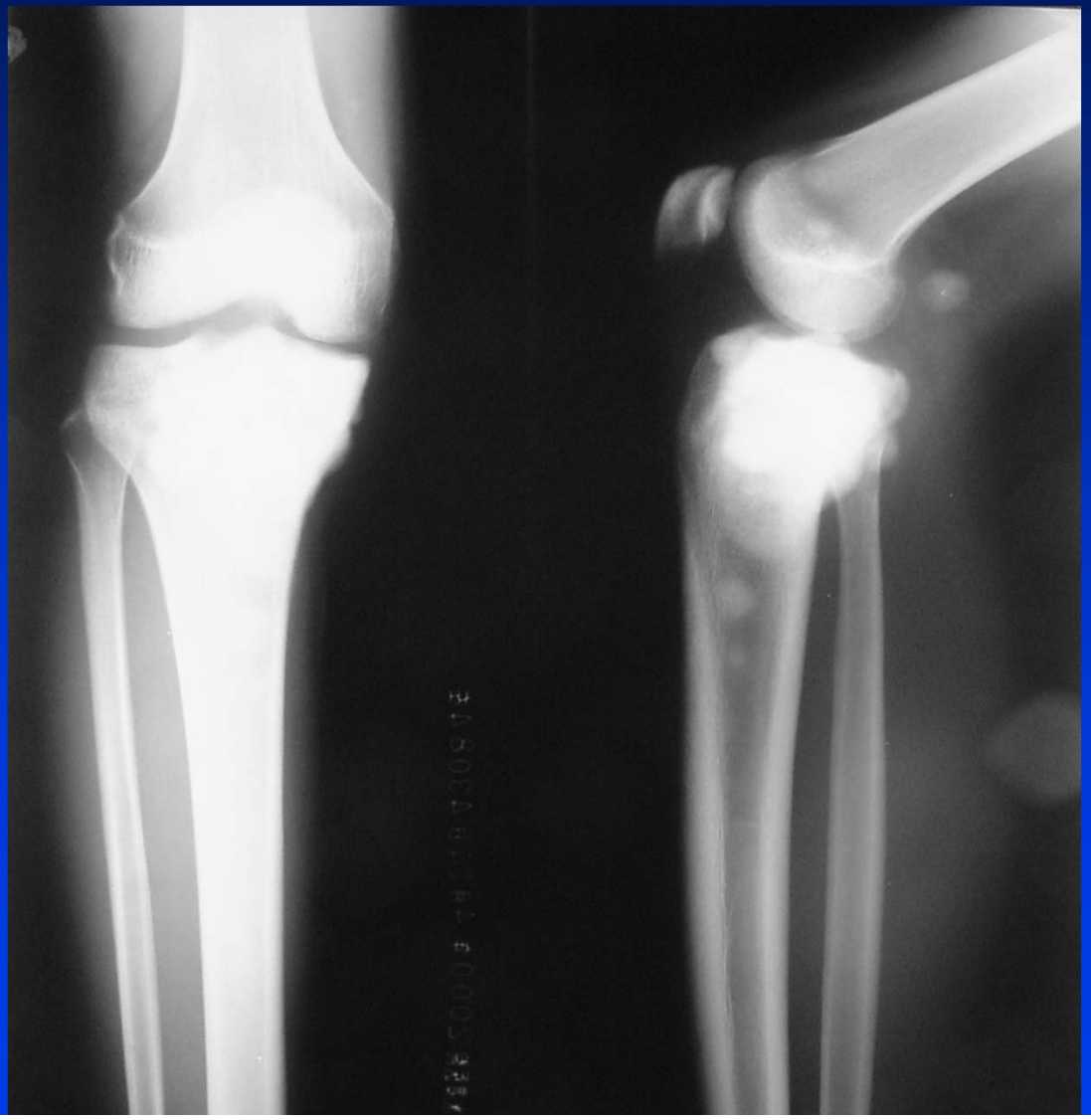

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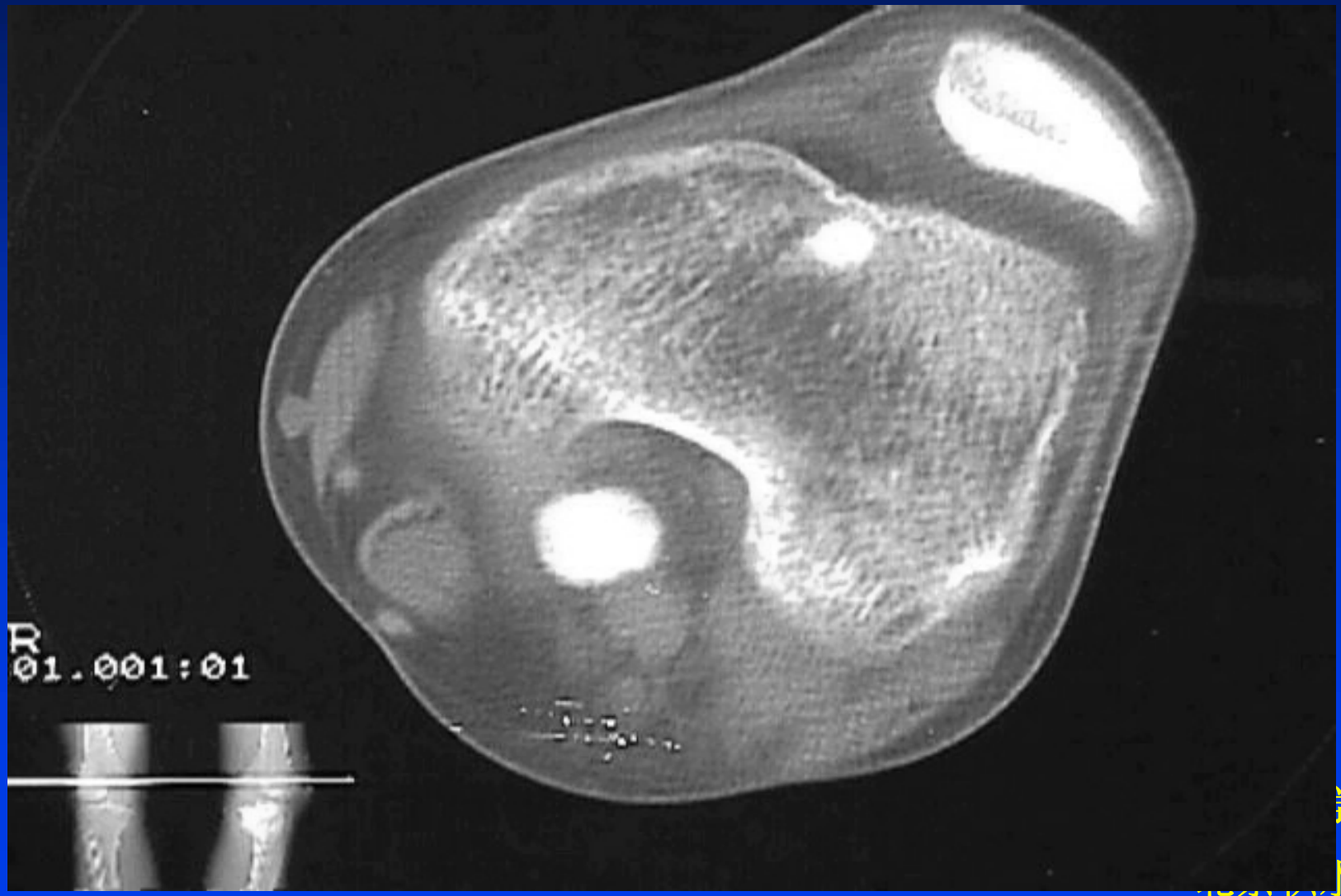

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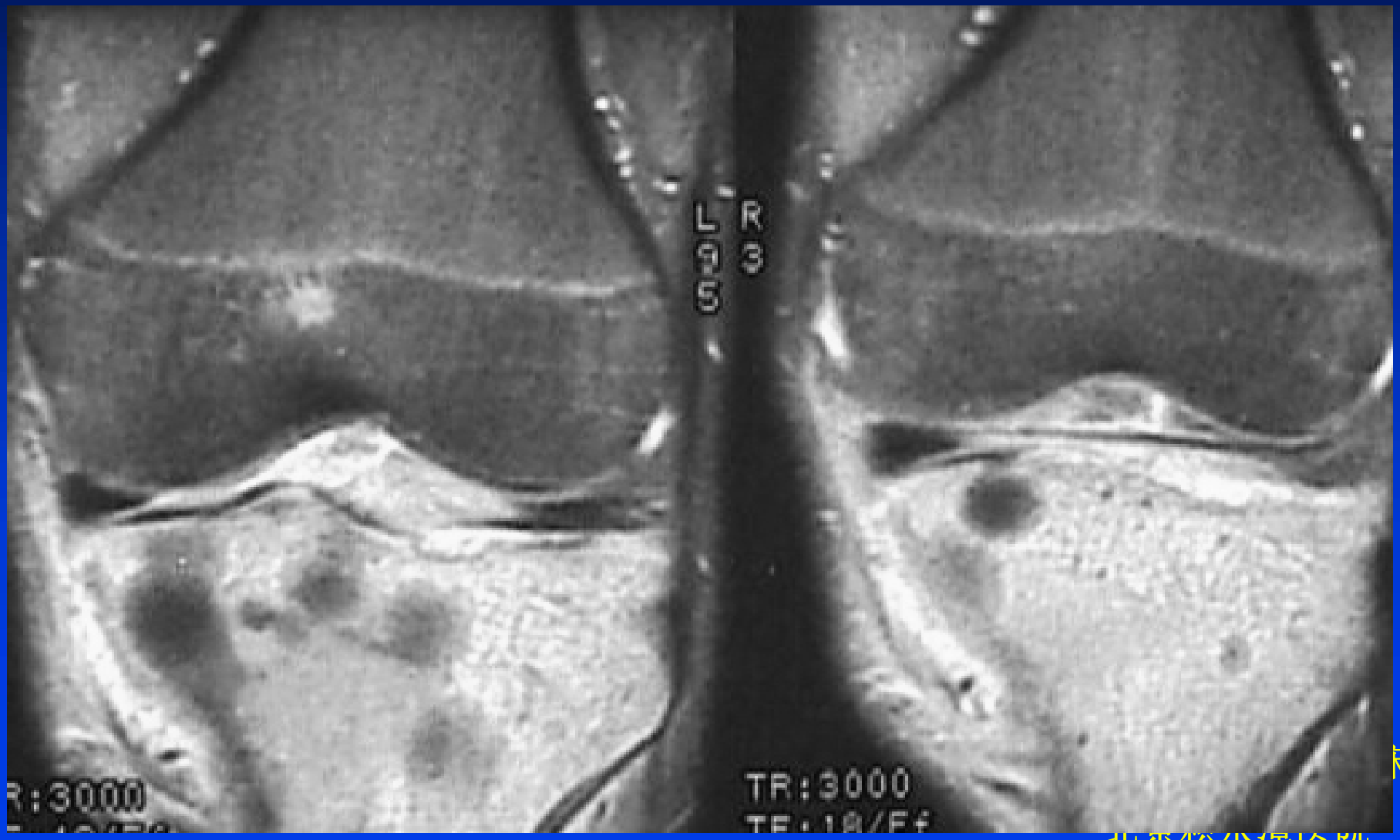

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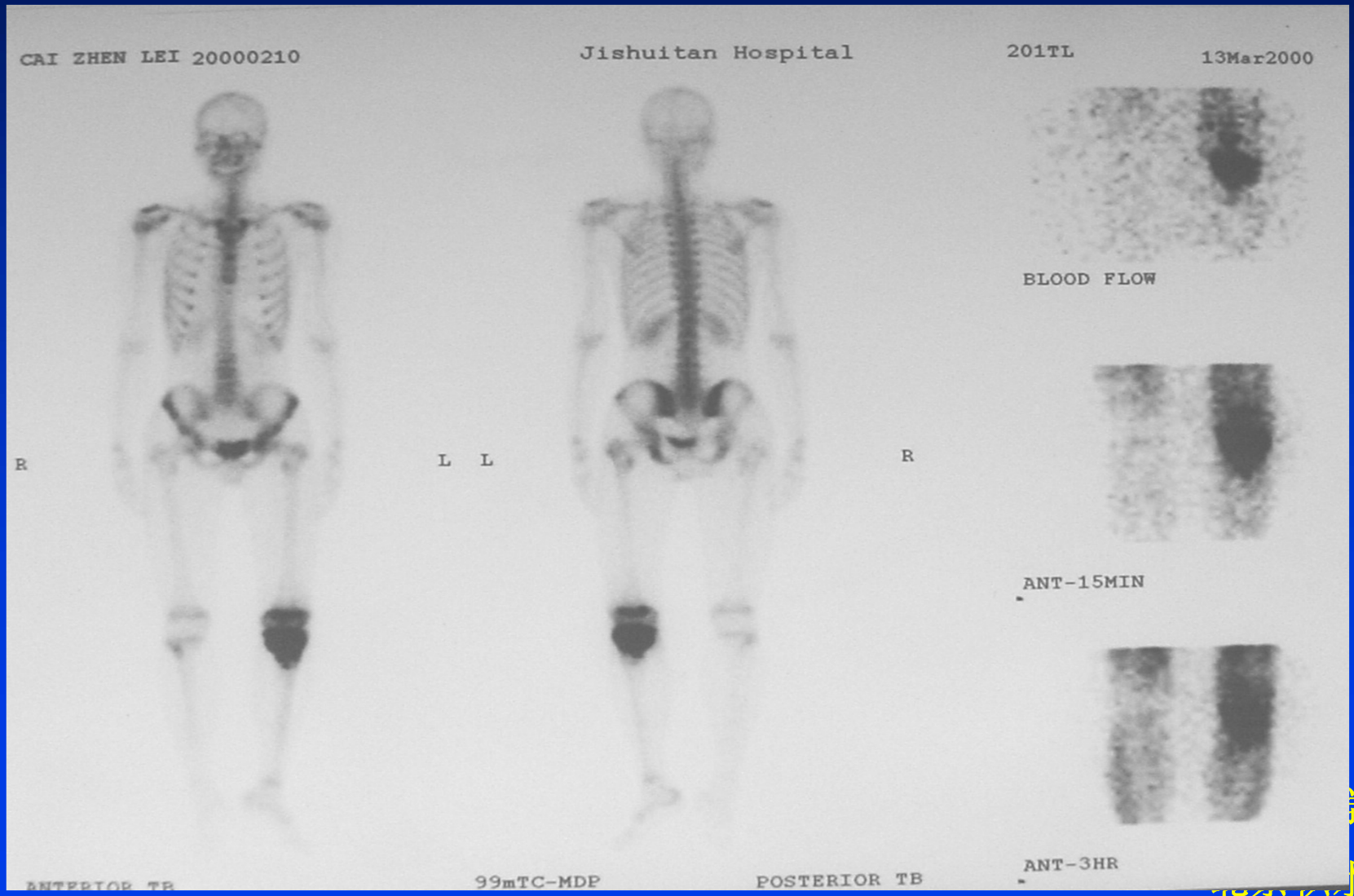

软组织骨肉瘤Sarcoma of soft tissue

- 软组织肉瘤(Sarcoma of soft tissue)是指发生于间叶组织的恶性肿瘤
- 常见中老年人
- 可发生在多种软组织
- 临床表现是逐渐增大的肿块

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软组织骨肉瘤Sarcoma of soft tissue

- 影像学表现
- 软组织肿块中可见斑点状钙化或骨化

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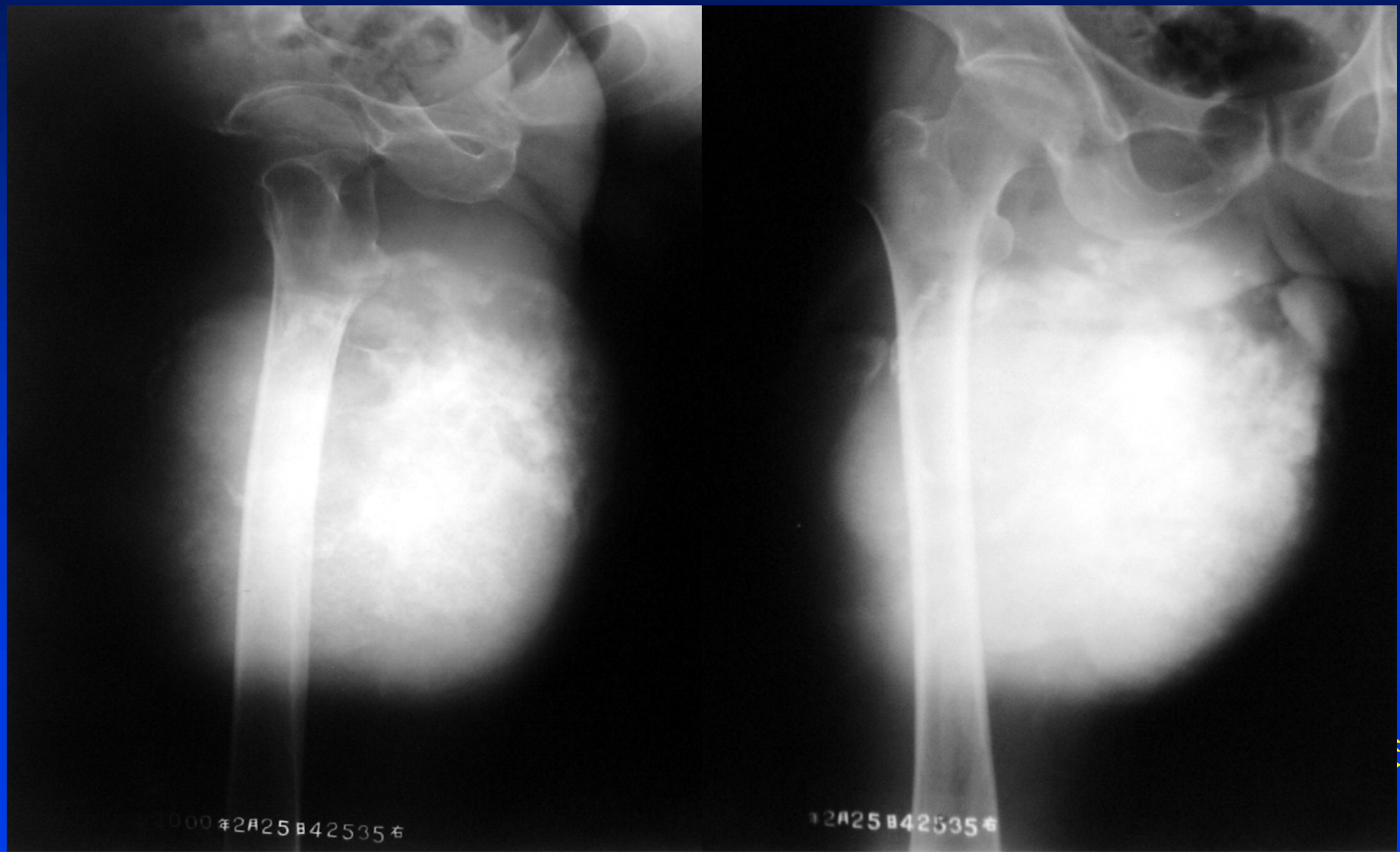
软组织骨肉瘤Sarcoma of soft tissue



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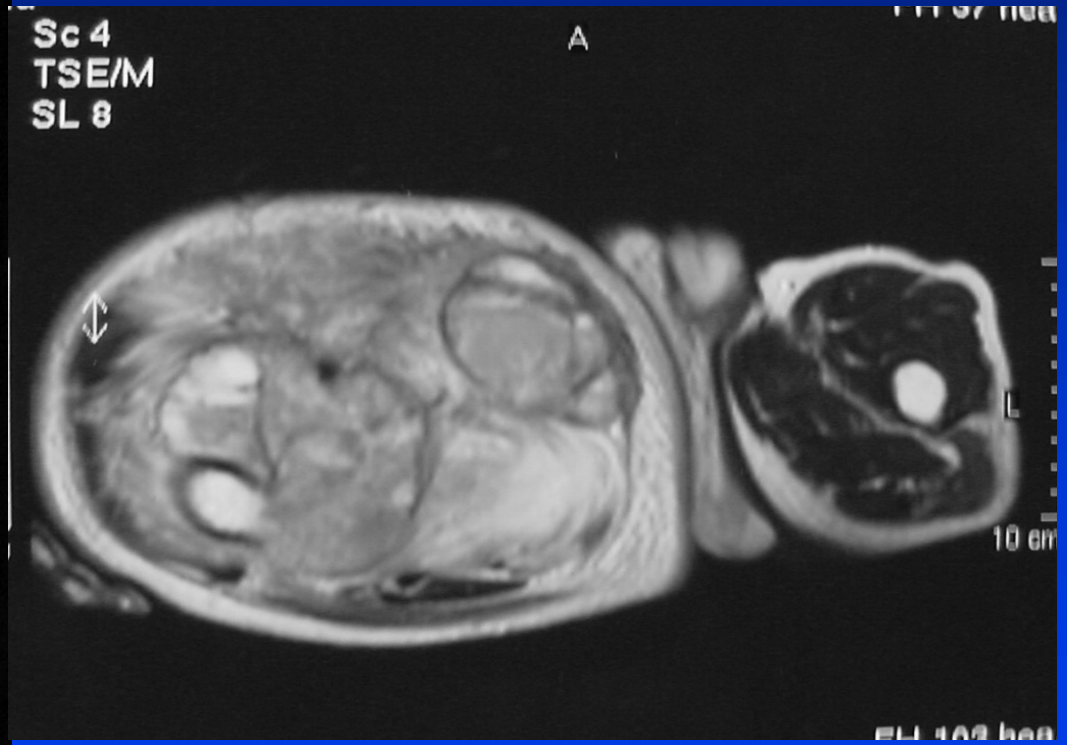

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第五届肌骨影像论坛暨骨密度测量研讨会

- 2011年5月14日-15日在北京京民大厦举行。
- 会议邀请境外专家：*意大利RIZZOLI骨科研究所骨肿瘤放射学家Daniel Vanel和病理学家*Marco Alberghini，美国波士顿大学医学院的 Ali Guermazi教授、亚洲骨骼学会（AMS）主席韩国釜山亚洲肿瘤中心的Seoung-Oh Yang教授等以及国内肌骨影像学的著名专家共同探讨肌骨影像学最新进展。
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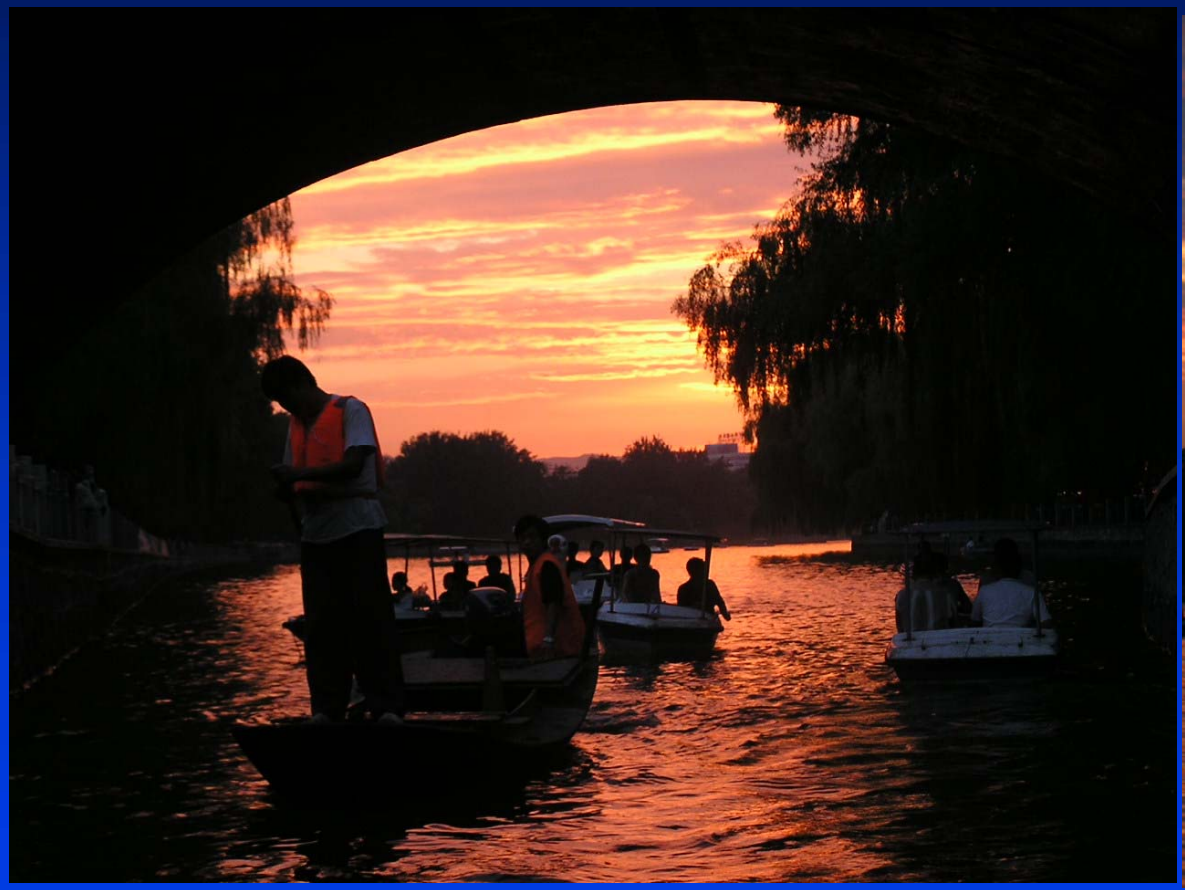

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