

Identification

- Gender : Female
- Birthday : Feb.20th, 1958
- Age : 45 years old

Chief Complaint

Left thigh pain for two months

Present Illness

- Left thigh pain for two months
- The pain is severer at medial part of the distal end of her left thigh
- There was no trauma noted at the left thigh

History

- No previous traumatic history of leg
- No systemic disease history
- No previous surgery history
- No admission history
- No family history of tumor

Physical Examination

- Left thigh : tenderness ; the pain is severer at medial part of left thigh
- Soft tissue swelling over the left medial thigh

Image Study

- Normal hip joint and joint space
- a 1.7-cm in length bony protrusion arose from the left femoral diaphysis
- No fracture



- Relative smooth contour of the protrusion
- Homogenous density of the lesion
- Cortical thickening and periosteal reaction
- No damage to cortex around the lesion
- No lytic lesion



Zoom In View

- A bony protrusion measured approximately 0.3 cm x 0.6 cm x 1.7 cm in size

- No evading into surrounding structure

- Thickened cortex with periosteal reaction

- No abnormal para-osteal soft tissue masses

- No radiolucent area in the lesion

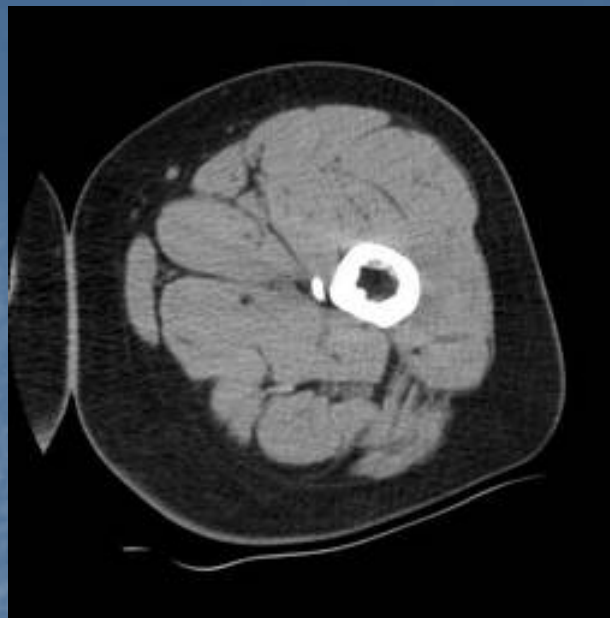


Figure 1

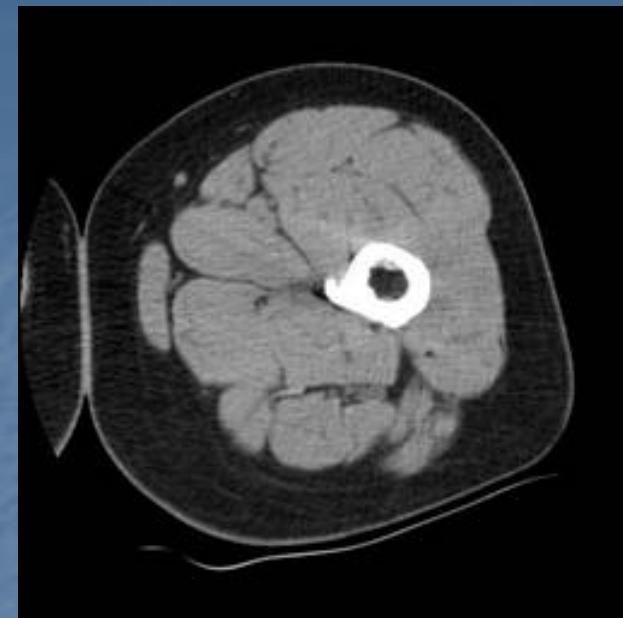


Figure 2



Figure 3



Figure 4

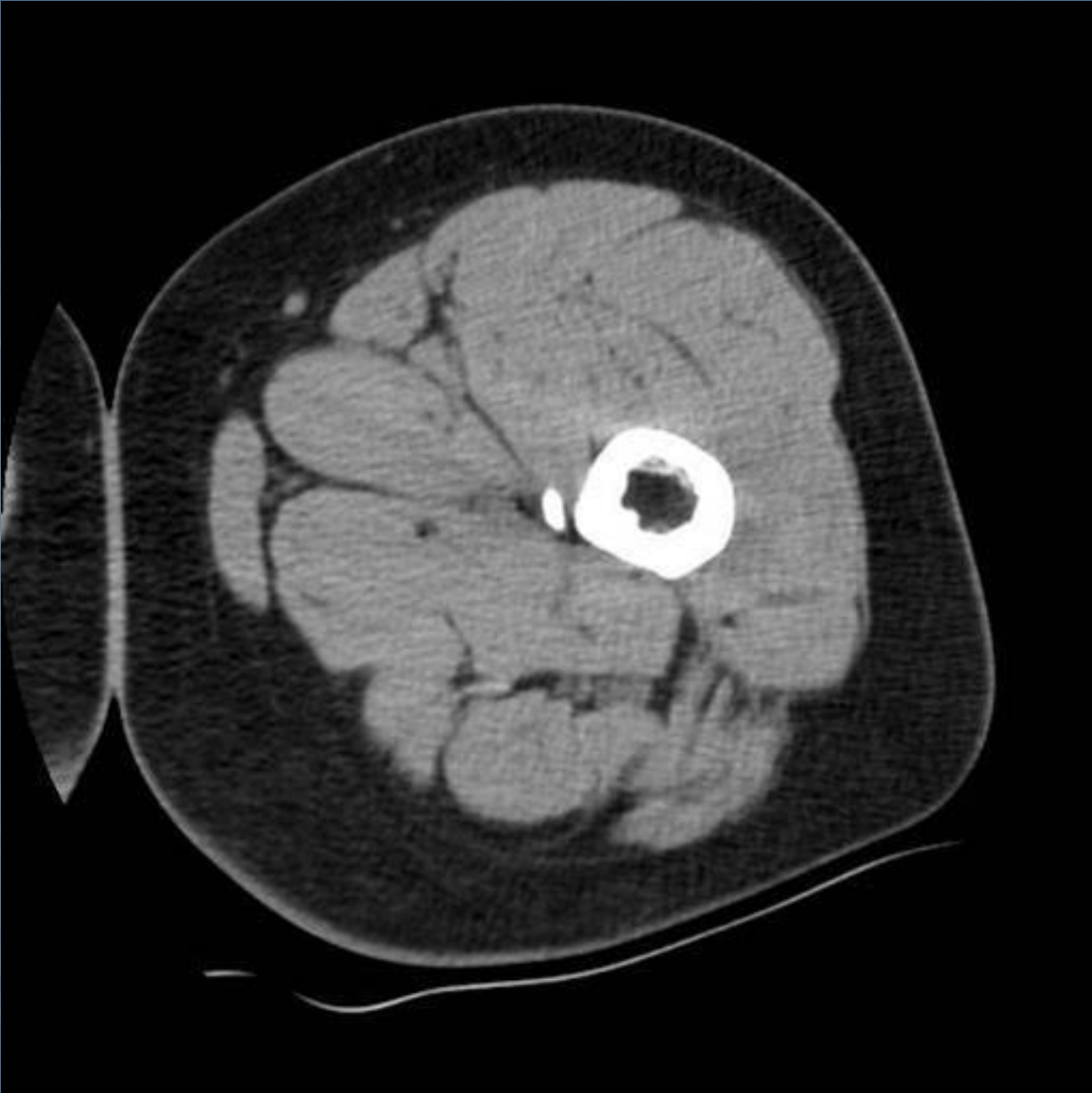


Fig. 1

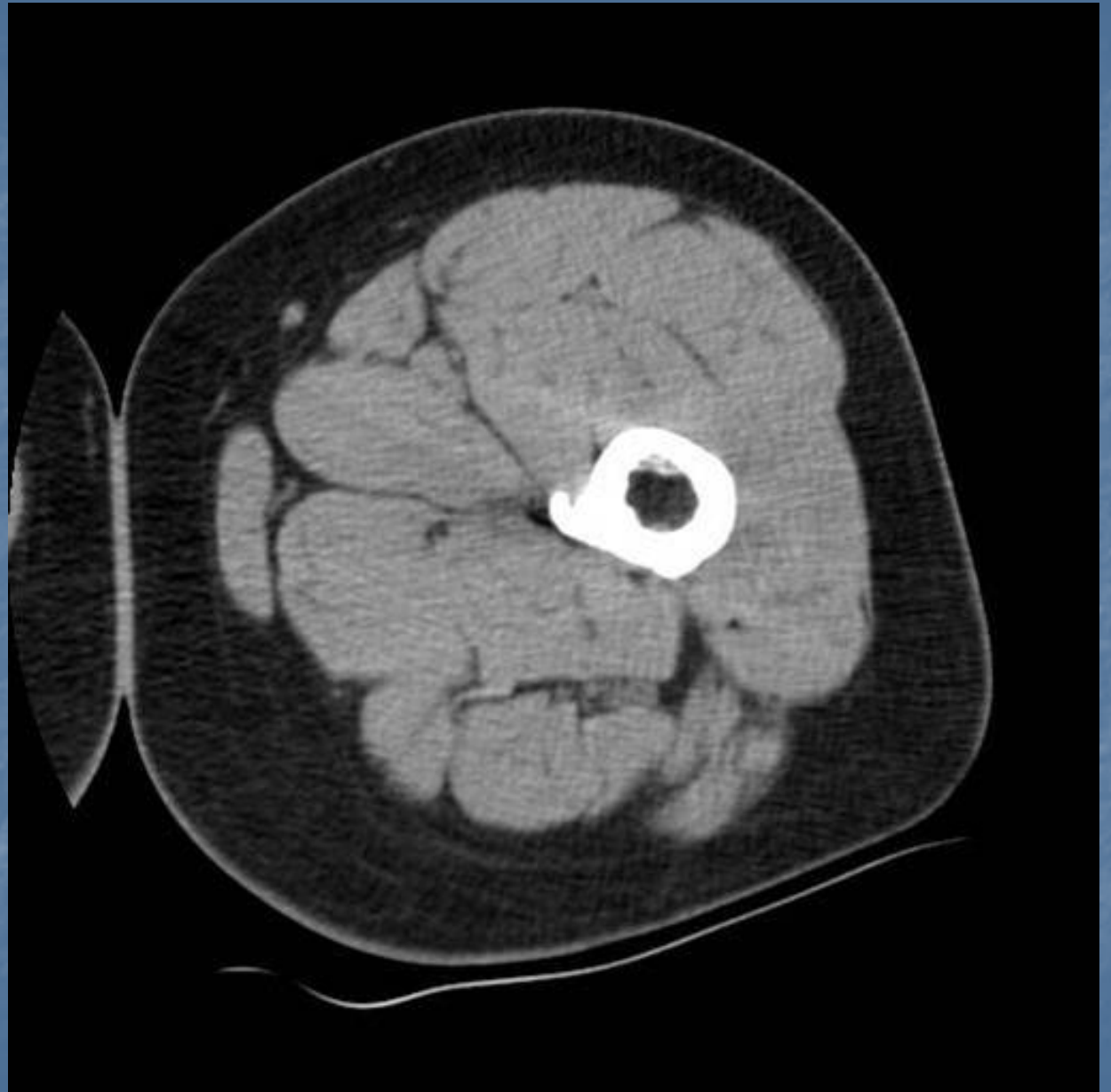


Fig.2

Review of the Lesion

- ◆ Pain at medial aspect of left thigh
- ◆ A bony protrusion at left femur
- ◆ Cortical thickening , periosteal reaction
- ◆ Smooth contour, homogenous density
- ◆ No bone destruction, no peripheral soft tissue mass or invasion
- ◆ The lesion is radiopaque without lytic region

Differential Diagnosis

- A. Osteochondroma
- B. Periosteal Chondroma
- C. Chondrosarcoma
- D. Periosteal Osteosarcoma
- E. Parosteal Osteosarcoma
- F. Osteoid Osteoma
- G. Ossifying Fibroma

Osteochondroma

- Hard ,painless and fixed mass in the metaphyseal region
- Most commonly occurs in long bones including proximal & distal femur, proximal tibia, pelvis , or scapula
- Associated symptoms due to tissue or nerve irritation/compression .

Periosteal Chondroma

- The cortex may be involved to a variable degree, but the lesions do not involve the medullary space
- No ring and arc figures seen in the ossified matrix, and neither was there any trace of trabecular organization of the ossified material
- No periosteal reaction
- Amorphous character of the ossific material within the lesion

Chondrosarcoma

- A fusiform, lucent defect with scalloping of the inner cortex and periosteal reaction on plain film
- Chondroid matrix mineralization of “rings and arcs” in 70%
- Extension into the soft tissue may be present as well as punctate or stippled calcification of the cartilage matrix

Osteosarcoma

- As time goes on ,osteosarcoma pain increases .
- Osteosarcoma calcifies from the center and continues to the periphery
- Usually extends into soft tissue and metastasis
- Night pain which awakes the patient
- Bone destruction, formation, periosteal reaction and mineralized soft tissue mass are typical features.
- Codman's Triangle

Periosteal Osteosarcoma

- Often found on the anterior surface of the diaphysis
- A radiolucent, fusiform mass attached to the bone surface on plain film
- May create a crater on the cortex with striated , radiating mineralization

Parosteal Osteosarcoma

- Found in the metaphysis of long bones, especially the posterior femur above the knee
- The lesion arises from the surface of the bone and has a tendency to encircle the bone
- CT may show radiolucent zone of periosteum and fibrous tissue that becomes trapped between the encircling tumor and the cortex

Osteoid Osteoma

- A sharp round or oval lesion that is less than 2 cm in diameter
- A homogeneous dense center
- A 1-2 mm peripheral radiolucent zone
- A distinct clinical picture of dull pain that is worse at night and disappears within 20 to 30 minutes of treatment with NSAIDs

Ossifying Fibroma

- It occurs during the first decade of life and presents clinically as a painless, enlarging mass.
- The most common site in adults is the mandible, followed by other long bones.
- It is a lytic lesion of bone and often causes anterior-posterior bowing.
- This well-circumscribed tumor has a multi-loculated appearance and causes distortion of the thin cortex.

Impression

Osteochondroma

Osteochondroma

Definition : A benign , chondrogenic tumor of bone characterized by a mass and pain.

Synonyms :

1. Osteocartilaginous exostosis
2. Osteochondromatosis
3. Diaphyseal aclasis

Epidemiology

- It accounts for 20-50% of benign bone tumors and 10-15% of all bone tumors.
- It can occur in any bone where cartilage eventually forms bone. It occurs most often at long bone. Distal femur and proximal tibia are the most common site.
- Peak incidence : 10-20 years of age in 80% of cases

Pathogenesis

- Osteochondromas are most likely caused by either a congenital defect or trauma of the perichondrium which results in the herniation of a fragment of the epiphyseal growth plate through the periosteal bone cuff .
- The lesions occur only in bones that develop from cartilage (endochondral ossification).

Symptoms And Signs

- Hard, painless, fixed mass
- Pain from pressure to nearby tissues or nerve
- Bone deformity may occur due to undergrowth of the affected bones.
- Valgus at knee, ankle, elbow, wrist.
- Limb length inequality
- Lower-than-normal-height for age

Imaging Procedures

- A compact pedunculated or sessile protuberance of bone. It is a well-defined lesion projecting from the metaphysis.
- Cortex and spongiosa are continuous with that of the affected bone
- Distinct and well demarcated external surface of the tumor
- No evading into surrounding tissue
- No destruction to bone

Treatment

- Asymptomatic osteochondromas :
Treatment is not necessary. Observing only is suggested.
- Patients with pain or neurologic symptoms due to compression :
 1. Surgery : to remove the mass
 2. Medication : to control pain