

## **Case 1 Summary: Osteosarcoma**

### History

1. Pain – most salient features:
  - a. Pain has been there for 3 months
  - b. Nocturnal
  - c. Increasing severity
  - d. No other explanation or history
2. Mono-arthritic
3. Type B symptoms are uncommon with sarcoma

### Examination

1. Swelling is just below the knee, not synovial
2. No effusion is present
3. The hip is normal – a slipped capital femoral epiphysis often presents as knee pain in his age group
4. Lymphatics and skin are normal

At this point the differential is quite broad. The lack of synovial swelling or an effusion counts against a rheumatologic process such as juvenile rheumatoid arthritis. There is little history of trauma, but this is often unreliable in young boys who may not want to reveal to their parents exactly what they were up to! The ongoing pain in the absence of any other explanation make a plain X-Ray mandatory. With the mass on examination and the nocturnal nature of the pain as well, there is clearly no excuse for not thinking of malignancy. Leukaemia is another malignancy that would need to be considered, and no-one would fault a physician for ordering a complete blood count in this situation.

### Radiology

1. Osteoid production
2. Codman's triangle
3. Periosteal new bone formation
4. Poorly defined margins

These are all hallmarks of an osteosarcoma, which is usually easily detected on a plain X-Ray

### Management

1. This patient should be referred urgently to a multidisciplinary centre with expertise in paediatric bone tumours. This child should be managed by physicians who see these patients on a regular basis. There is no reason to delay this referral while further tests are done.
2. Advising the parents is very important
  - a. Most patients with osteosarcoma can be cured
  - b. Chemotherapy is essential for a high cure rate
  - c. Surgery will be required if cure is to be achieved

### Final Outcome

This child did very well. The photo is of a different patient who underwent rotationplasty.