



Myeloma

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Multiple myeloma is a malignancy of plasma cells which leads to widespread bony lytic lesions. It is the most common primary tumour affecting bone and can affect any bone which contains red marrow (haematopoietic marrow).

The sites affected are:

- spine
- ribs
- sternum
- pelvis
- skull (pepperpot skull)

History and Examination

Patients usually present complaining of multiple sites of bony pain related to the lytic bone lesions. Because the lesions are lytic they are prone to pathological fractures and this may be the first presentation in some patients. Where the spine is affected patients may present with neurology as a result of spine cord compression. Patients may also have recurrent bacterial infections as they do not produce normal levels of immunoglobulins.

When taking a history constitutional symptoms should also be sought such as weight loss and symptoms of anaemia, renal failure and thrombocytopaenia.

Investigations

One of the commonest investigations which students remember is urinalysis for Bence Jones proteins. However, it is important to remember this is only positive in 50% of patients with multiple myeloma.

Blood tests should also be performed:

- FBC : normochromic normocytic anaemia
- ESR : significantly elevated
- Electrolytes : hypercalcaemia
- Serum Electrophoresis : monoclonal immunoglobulin (present in 90% of patients)

Radiology

X-rays typically show lytic punched out lesions with no periosteal reaction. In patients where the condition is suspected a full skeletal survey is usually the most sensitive investigation as bone scans show no increased uptake in a large percentage of patients with myeloma.

The x-ray below shows the typical appearances of a pepperpot skull. The small lytic (dark) lesions can be seen across the x-ray.



The x-ray below shows similar widespread lesions across the pelvis.

