

# Lymphoma

## History

Primary lymphoma of bone first described by Oberling in 1928.

Was formerly known as reticulum cell sarcoma.

## Epidemiology

Peak incidence in the fifth decade.

Slight preponderance of males over females (1.0-1.8:1)

Primary bone lymphomas 3.1% of Mayo series

## Localisation

Found in bones with persistent red marrow. Most common site in Mayo series was femur then ilium.

Very rarely found in hands or feet.

The lesion is typically large and long.

## Presentation

Localised bone pain

Occasionally palpable mass

Approximately 25% have a pathological fracture

B symptoms very rare; in fact patients are often surprisingly well considering their tumour mass.

May be generalised lymphadenopathy.

## Pathology

Majority are large B-cell lymphomas.

Hodgkin's disease is rarely seen.

They have a diffuse rather than nodular pattern. The cellular pattern is mixed, with differing size and shapes of tumour cells, which is helpful in differentiating from ES.

They are also glycogen negative, whereas ES is glycogen positive.

## Imaging

The lesion is often extensive, involving 25-50% of the involved bone. It tends to involve the metaphyseal region.

It is usually destructive, often eroding the cortex. Lysis usually predominates over sclerosis. There may be a periosteal reaction but it is not usually marked.

If the lymphoma is confined to the medulla there may not be any changes seen on the XR despite an abnormal bone scan.

MRI will usually demonstrate some soft tissue extension. Intermediate T1, high T2.

Can present as an ivory vertebra; this doesn't expand the bone while Paget's disease does. Paget's disease also has a window frame appearance, with the sclerosis most marked peripherally.

## Staging

The lymphoma staging is via the Ann Arbor staging classification.

XR

CT scans of chest, abdomen and pelvis

Bone scan - hot

Bone marrow aspiration and biopsy

Most patients have localised disease with an associated soft tissue component (IEA)

## Differential diagnosis

Osteomyelitis

Ewing's sarcoma

## Treatment

Combined chemotherapy and radiotherapy.

## Prognosis

Lymphoma has the best prognosis of all primary malignant bone tumours. Five year survival rates of 40-60%.