

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

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### Medical Imaging Quiz – Case 48

A 56-year-old woman presented to the emergency department due to persistent backache. Pain started 3 months ago after unusual physical exercise and was getting worse the last two weeks. Physical examination showed none pathological finding. A thoracic and lumbar spine x-ray was performed and revealed single, dense thoracic vertebra (ivory vertebra) (fig. 1). The rest of laboratory investigation, including blood tests, chest x-ray and abdomen ultrasound were normal. A computed tomography guided fine core biopsy was decided in order to confirm the diagnosis (fig. 2).

#### Comment

*The ivory vertebra sign refers to diffuse and homogeneous increase in opacity of a vertebral body that otherwise retains its*



**Figure 1.** Thoracic spine x-ray revealed increased opacity of entire thoracic vertebra (ivory vertebra).

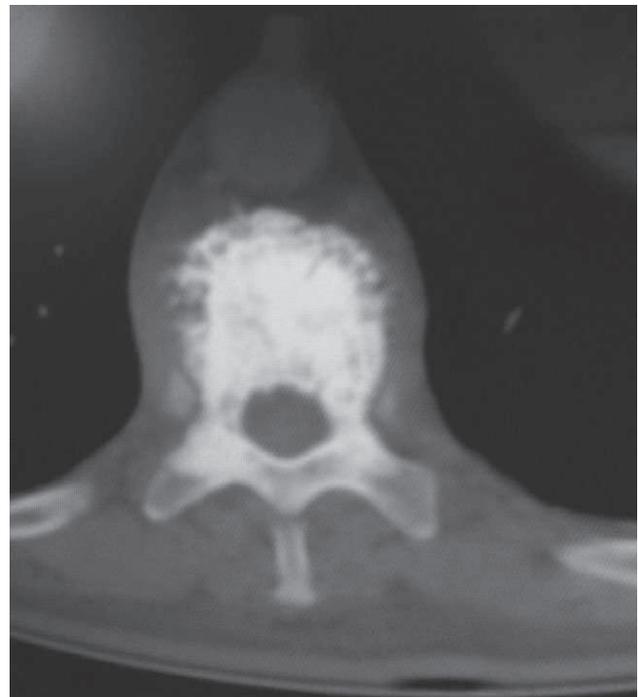
ARCHIVES OF HELLENIC MEDICINE 2018, 35(2):280–281  
ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2018, 35(2):280–281

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**Figure 2.** Computed tomography (CT) scan shows predominant asseous sclerosis of thoracic vertebral body, surrounded by soft tissue lesion.

*size and contours, and with no change in the opacity and size of adjacent intervertebral discs. The main causes for an ivory vertebra in adults are osteoblastic metastases (mainly due to prostate or breast cancer), lymphoma, tuberculous spondylitis, haemangioma, chordoma and Paget disease.*

*In our patient histological findings confirmed the diagnosis of primary bone lymphoma (PBL).*

*PBL is a less common manifestation of lymphoma than secondary involvement from disseminated lymphoma. It is rare, accounting for <5% of bone tumors and <1% of non-Hodgkin lymphoma. PBL is defined as the presence of lymphoma isolated to one bone without distant spread for six months after diagnosis. Multifocal*

PBL is less common and occurs with lymphoma is confined to two or more bones. It can affect any age group, with peak incidence in 50–60 year olds. It is rare in children less than 10 years old. There is a slight male predominance (M:F=1.5:1). Symptoms include localised pain and swelling, B-type symptoms, pathological fractures, and cord compression. Diffuse large B cell lymphoma is the most common subtype. PBL has non-specific features and the affected bone may be normal or affected by lytic, sclerotic or mixed pattern. Associated soft tissue masses are common. Five-year survival rate has been reported at approximately 80%, much better than other bone tumors.

## References

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