

Metastatic transverse vertebral fracture due to lung cancer

Molina Almela C¹, Sánchez Pardo M², Rueda Cid A¹, Campos Fernández C¹, Calvo Català J¹

¹ Servicio de Reumatología

² Servicio de Neurocirugía

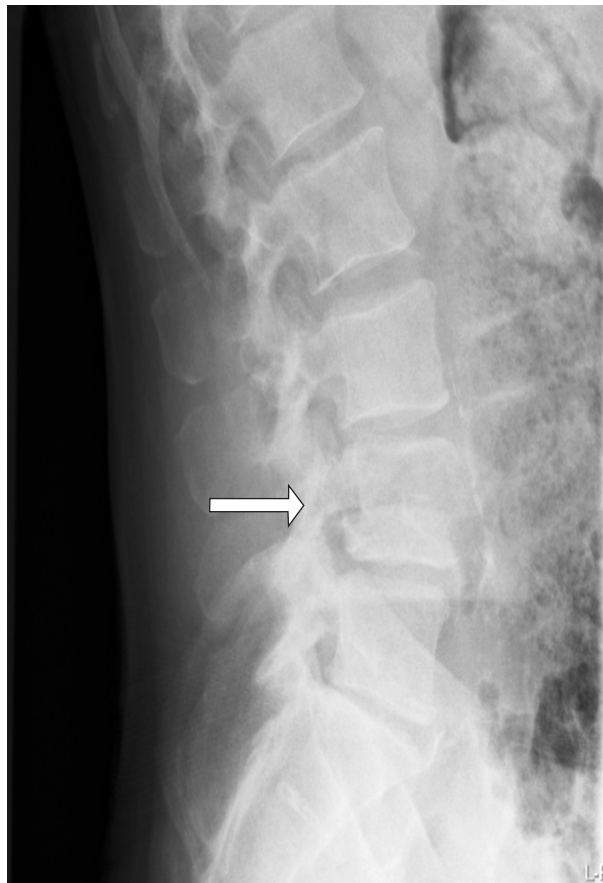
Consorcio Hospital General Universitario de Valencia. Valencia (Spain)

Date of receipt: 25/04/2019 - Date of acceptance: 31/05/2019

A 58-year-old patient with rheumatoid arthritis in remission with methotrexate at a dose of 10 mg/week. He goes to hospital emergencies several times for acute lower back pain over one month. In the lumbar X-ray, an L4 transverse fracture with posterior wall retropulsion (Figure 1) goes unnoticed. This lower back pain becomes disabling with loss of left leg function. Lumbar MRI is carried out on T2 and STIR sequence (Figures 2a and 2b), showing acute-subacute fracture of the L4 vertebral soma with pedicles edema and moderate intra-canal displacement of the lower half of the posterior wall that compresses the efferent nerve root. Left and partially takes up the side recess. With suspicion of tumor etiology, enter for study. In the thoracic CT scan, a large, right-lobed, upper-cavity tumor is reported with ipsilateral main bronchus associated with perilesional pneumonitis and bronchiectasis (Figure 3). The pulmonary lesion histology was of large cell lung carcinoma PD-L1 80% positive. Vertebroplasty was carried out. The patient underwent pembrolizumab treatment with good response to date. Rheumatoid arthritis is maintained in remission despite treatment with anti-PDL¹.

We present a case of transverse vertebral fracture secondary to metastasis from lung cancer. These fractures are very rare and often go unnoticed. They may appear in patients with ankylosing spondylitis and vertebral fusion, but outside this context they tend to suggest an underlying neoplastic growth. The main tumors to consider are myeloma or metastases of prostate, breast or lung. There are other less frequent primary tumors such as kidney, colon, skin or thyroids^{2,3}.

Figure 1. Lateral lumbar radiography. An L4 transverse fracture with posterior wall retropulsion is observed



Figures 2a and 2b. Lumbar NMR in T2 and STIR that shows acute-subacute fracture of the L4 vertebral soma with pedicles edema and moderate intra-canal displacement of the lower half of the posterior wall that compresses the left efferent nerve root and partially occupies the lateral recess

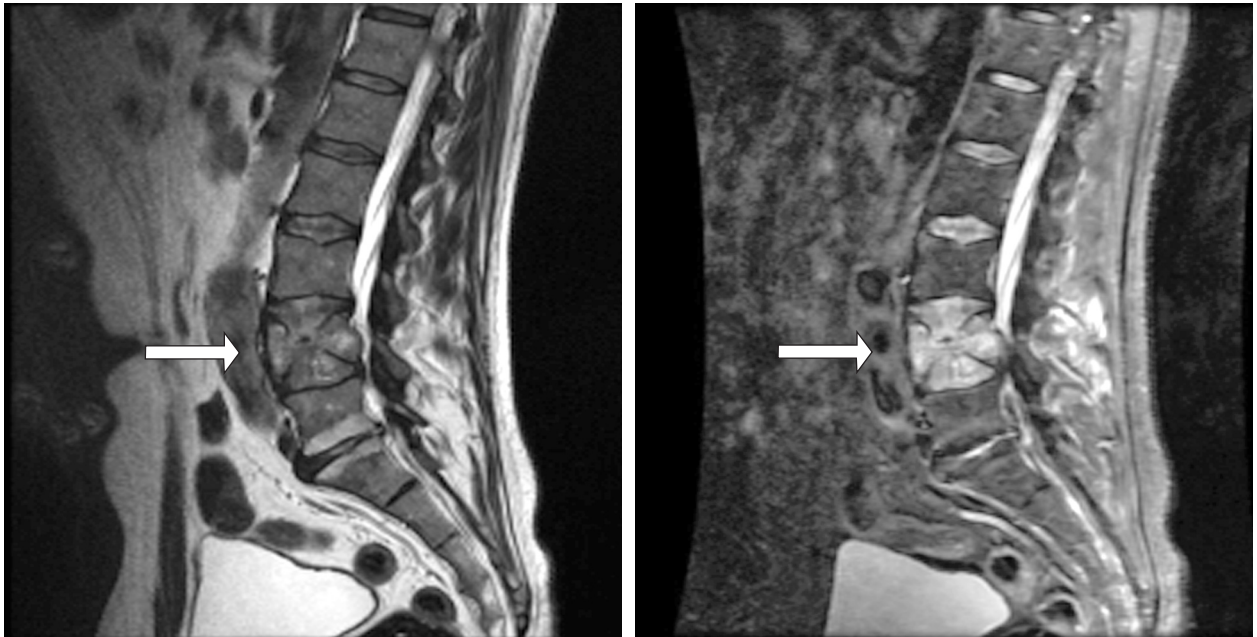
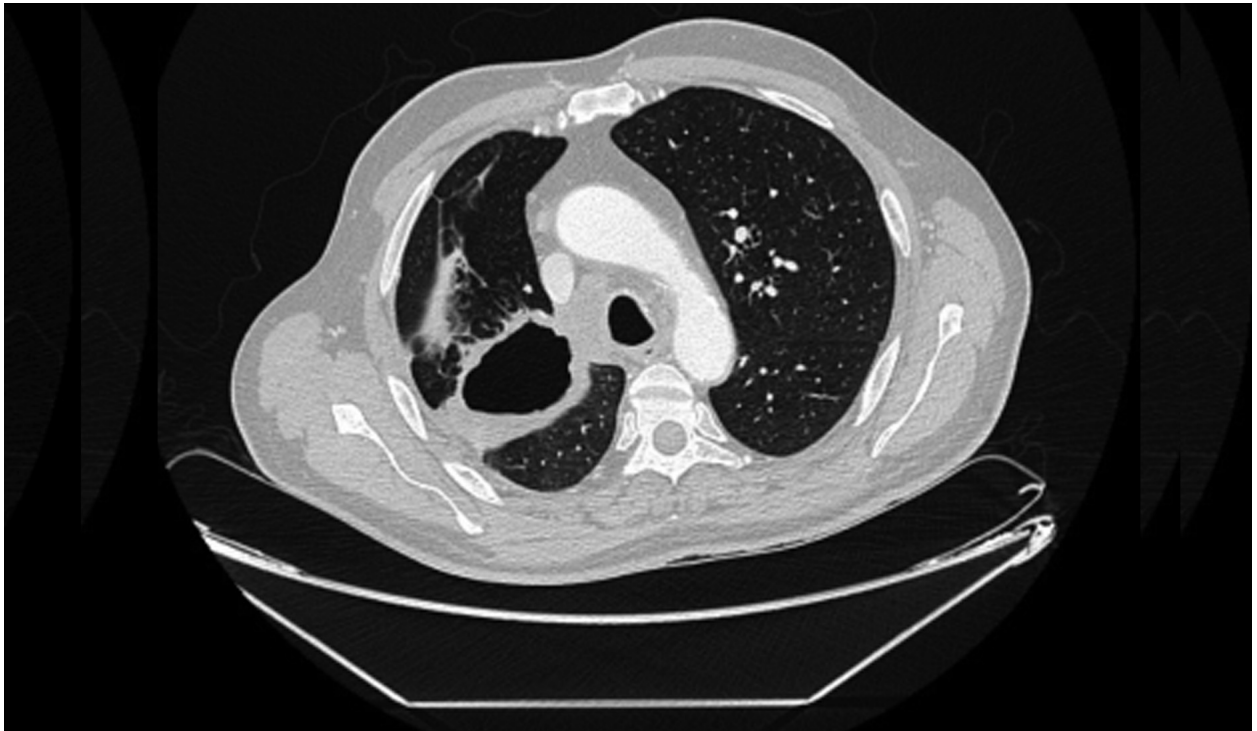


Figure 3. Chest CT scan shows a large lesion in the right upper lobe



Conflict of interests: Authors declare no conflict of interests.

Bibliography

1. Glace B, Dubost JJ, Ristori JM, Irthum B, Chazal J, Soubrier M. Transversal fractures in spinal ankylosis: a case series of 17 patients. *Rev Med Interne*. 2011;32(5):283-6.
2. Resnick D, Kransdorf M. Skeletal metastases (Chapter 72). En: Resnick D, Kransdorf M, Eds. *Bone and Joint imaging*. Philadelphia: Saunders-Elsevier; 2004. p.1249-1267.
3. Civantos Modino S, Navea Aguilera C, Pavón de Paz I, Almodovar Ruiz F, Elviro Peña MR. Metástasis óseas y compresión medular como debut de carcinoma folicular de tiroides. *Rev Osteoporos Metab Miner*. 2012;4(4):141-4.