

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

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### Medical Imaging Quiz – Case 5

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A 32-year old male patient complained of low back pain that radiated to the left leg, of more than 1 month duration.

Physical examination was difficult due to poor patient cooperation. On plain lumbar spine films a small bone defect is seen on the posterior lower corner of the fifth lumbar vertebrae. On lumbar CT scans, a bone fragment is seen on the posterior left border of the fifth lumbar vertebrae (figures 1, 2).

#### Comment

A *limbus vertebrae* is a corticated bone density adjacent to the vertebral body. It can be either anterior or posterior, and consequently, of variable symptomatology. If the defect is anterior, minimal symptoms can be manifested, such as stiffness, or loss of the physiologic lordosis. On the contrary, if the defect is posterior, then symptoms mimicking nerve root compression will be manifested.

Anterior *limbus vertebrae* is far more common than posterior *limbus vertebrae*. The lesion is more frequent in the lumbar spine. Since it is a condition associated with development, it will be seen in adolescence.

Four types of *limbus vertebrae* have been described; type I consisting on the avulsion of the posterior cortical rim, type II composed of central cortical and cancellous bone lesions, type III being more lateralized chip lesions, and type IV being lesions which span the entire length and breadth of the posterior vertebral margin, between the end plates.

On plain films, a bone defect with or without a bony density in front of the defect can be seen. If there is a previous history of trauma, this can be misinterpreted as a vertebral fracture.

On CT scans, the defect is clearly shown, with the bony fragment in front of the defect, and in the case of posterior lesions, pressure over the nerve roots and or the spinal theca can be seen.

#### References

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Figure 1. In the pilot scan for a CT scan of the lumbar vertebrae, an osseous defect is seen on the posterior lower corner of the body of the fifth lumbar vertebra.



Figure 2. With the bone window, an osseous defect is seen on the posterior left border of the fifth lumbar vertebrae, and a bony islet, with what seems to be smooth borders and some cortical bone in its perimeter, finding that differences it from a true fracture, in which cortical bone will be seen only on the outer perimeter. Note that this bony islet makes some pressure on the nerve root.

*Diagnosis: Posterior limbus vertebrae*