A 14-year-old Boy with Mandibular Tumor, Spontaneous Spinal Fractures

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A 14-year-old boy with a medical history of scoliosis, *Mycoplasma pneumoniae* pneumopathy, and lymphocytic meningitis at 10 years complained of diurnal back pain and left ankle pain. Plain radiographs were normal at this time.

Two months later, the pain re-occurred. Three months after that point, the back pain grew more intense. A right cheek edema was also detected. The patient presented with mild anorexia but was still in good condition. There was no fever, and his weight was stable. There was a mild inflammatory syndrome with an erythrocyte sedimentation rate (ESR) measured at 35 mm and a C-reactive protein (CRP) at 27 mg/L. White blood cell count was normal.

Plain radiographs and computed tomography (CT) revealed two spinal fractures of the T5 and T7 vertebral bodies (see Figure 1). There was

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**Editors’ note:** Each month, this department features a discussion of an unusual diagnosis in genetics, radiology, or dermatology. A description and images are presented, followed by the diagnosis and an explanation of how the diagnosis was determined. As always, your comments are welcome via e-mail at editor@pediatricsupersite.com.

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**Figure 1.** A. Sagittal view of CT centered on the fractured vertebral bodies of T5 and T7 (arrowheads). B. Sagittal view of T1-weighted MRI with fat saturation without contrast. The enhancement of the T7 vertebrae is more apparent than the one of the T5, and T5 is spontaneously hyperintense. The fracture of T7 is, therefore, more recent. Source: Pham CT.
an osteolytic bone tumor located on the right ramus of the mandible with periostal reaction and inflammatory reaction of the surroundings soft tissues (see Figure 2). There were no specific sign of bone abscess. CT of the chest was normal, and magnetic resonance imaging (MRI) of the brain was normal.

MRI of the spine demonstrated that the fracture of the T7 vertebral body was more recent than the one of the T5 vertebral body; this was shown on the signal and the contrast-enhancement pattern (see Figure 1, page 189).

Bone scintigraphy and [18F]-FDG positron emission tomography (PET) did not detect any additional abnormalities.

An osteomedullar biopsy was performed and was normal. Biopsy of the mandible tumor revealed an abnormal bone with conjunctive tissue, but there were not any tumor cells, sign of infection, or Langerhans cells.
**DISCUSSION**

CRMO is an autoinflammatory, aseptic disorder of unknown cause involving bones and mainly occurring in children and adolescents. Main clinical presentation is bone pain and fever with a course of exacerbations and remissions. CRMO is considered as the pediatric presentation of synovitis, acne, pustulosis, hyperostosis, and osteitis (SAPHO) syndrome.  

Vertebral bodies are a common site of the disease. However, the mandible is a more rare site. Most typical sites are metaphysis of long bones and the clavicles. Pathological examination is not specific but never shows any sign of infection or Langerhans cells.

CRMO is a diagnosis of elimination: differential diagnoses include infectious osteomyelitis, neoplasm (mainly Ewing’s sarcoma, lymphoma, and leukemia), and Langerhans cell histiocytosis.

Clinical key points for the diagnosis are medical history, with intermittent periods of exacerbation and remission with successive bones affected and typical sites involved. Radiologic and pathological examinations allow the exclusion of the differential diagnoses and are, therefore, essential to establish the diagnosis of CRMO.

**REFERENCES**


