Clinical picture

Emphysematous Osteomyelitis of Spine

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A 46-year-old man with a history of alcohol abuse was admitted to the emergency department with drowsiness, septic shock, and chronic back pain that had exacerbated quickly over the past 2 days. His medical history was limited to alcoholic liver cirrhosis without regular medical attention. Physical and laboratory examinations revealed leukocytosis, thrombocytopenia, coagulopathy, and deteriorated liver and renal functions. In addition, *Klebsiella pneumoniae* was identified in a blood culture.

Computed tomography of the abdomen and pelvis revealed moderate intraosseous gas and diffuse emphysema in the bilateral psoas muscles, retroperitoneum, lumbar vertebral bodies, epidural space, and right buttock. Despite aggressive managements including massive hydration, systemic antibiotic therapy, and surgical debridement, the patient’s condition progressed to multiple organ dysfunction, and he succumbed to his condition within 48 h.

Intraosseous gas was first described as a sign of osteomyelitis since 20 years ago. Emphysematous osteomyelitis is a rare but potentially fatal condition that must be considered on the identification of intraosseous gas on imaging. The differential diagnosis includes trauma, post-surgical change, lymphangiomatosis of the bone, degenerative disease, osteonecrosis, and neoplasm. Empiric antibiotics with activity against anaerobes and members of the *Enterobacteriaceae* family should be
immediately administered. Early diagnosis and immediate treatment are crucial for preventing the potentially devastating consequences of the disease.

FIGURE LEGEND

Figure 1: A 46-year-old man with the rare diagnosis of emphysematous osteomyelitis of spine. Computed tomography of the abdomen and pelvis revealed moderate intraosseous gas and diffuse emphysema in the bilateral psoas muscles, retroperitoneum (white arrow), lumbar vertebral bodies (black arrow), epidural space (black arrowhead), and right buttock (white arrowhead), by (A) axial view and (B) coronal view.

REFERENCES


3. Luey C, Tooley D, Briggs S. Emphysematous osteomyelitis: a case report and

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81x64mm (300 x 300 DPI)
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