

## Anaerobic osteomyelitis associated with intraosseous and soft-tissue pneumatosis

Jae Sung Son · Joong Bae Seo

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### Introduction

A 13-year-old girl with paraplegia from a traffic accident presented to our hospital with fever and swelling of the left thigh for 1 month. Initial laboratory findings revealed leukocytosis, elevated C-reactive protein (31 mg/dl) and increased creatinine (2.38 mg/dl). A plain radiograph of the left hip and CT showed gas within the femur head, iliac bone and surrounding soft tissue, and extensive soft-tissue



**Fig. 1** Anteroposterior plain radiograph



**Fig. 2** Axial CT image

swelling in the pelvis, hip joint and thigh (Figs. 1 and 2). Surgical debridement and drainage of the soft-tissue abscess were performed. Cultures of both the abscess and the femoral head grew *Bacteroides fragilis*, *B. thetaiotaomicron* and *Fusobacterium necrophorum*.

Intraosseous gas was first detected by CT in 1981 when reported in three cases of polymicrobial osteomyelitis [1]. This condition is extremely rare, particularly in the absence of a compound fracture, surgery or other direct communication between the bone and air [2]. The pathogens are often polymicrobial and anaerobic. The presumed mechanism for the formation of intraosseous gas involves anaerobic metabolism with the production of hydrogen and carbon dioxide [2]. Anaerobic osteomyelitis can become fulminant and invasive.

### References

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J. S. Son (✉)

Department of Pediatrics, College of Medicine,  
Konkuk University,  
4–12 Hwayang-dong, Gwangjin-gu,  
Seoul, Korea  
e-mail: drsonped@hanmail.net

J. B. Seo

Department of Orthopedic Surgery, College of Medicine,  
Dankook University,  
San-29 Anseo-Dong, Cheonan,  
Choongnam, Korea