Complicated *Kingella kingae* osteoarthritis

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INTRODUCTION

Kingella kingae is increasingly being recognized as a common etiology of osteoarticular infections, especially in younger children. The recent use of liquid culture medium and polymerase-chain-reaction allows improved bacterial isolation. Infections are usually mild with a favorable outcome. However, unusually complicated cases have been rarely reported.

CASE REPORT

3 y/o

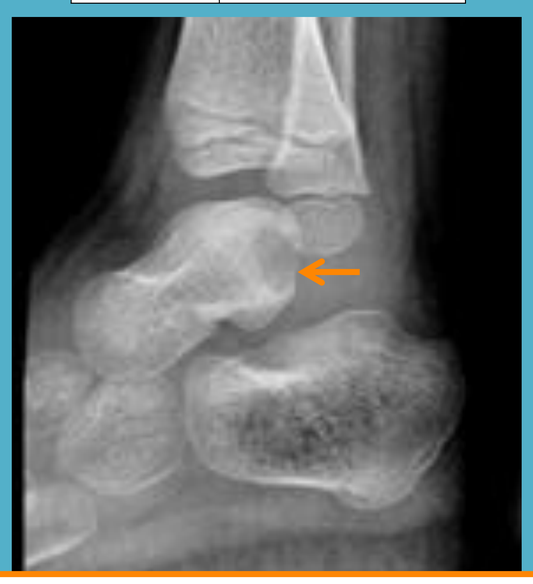
Aphthous oral lesions

Lower limb claudication for 15 days

Low grade fever (max 38.5ºC) the first 3 days

Right tibiotarsal joint edema

WBC	14.600 /L
ESR	32 mm/h
CRP	2.4 mg/L



Radiographs: unifocal bone lytic lesions compatible with abscess (astragalus, calcaneus and external malleolus)

US: no joint effusion.

Histology: inflammatory cells + bone sequestrum.

2 y/o

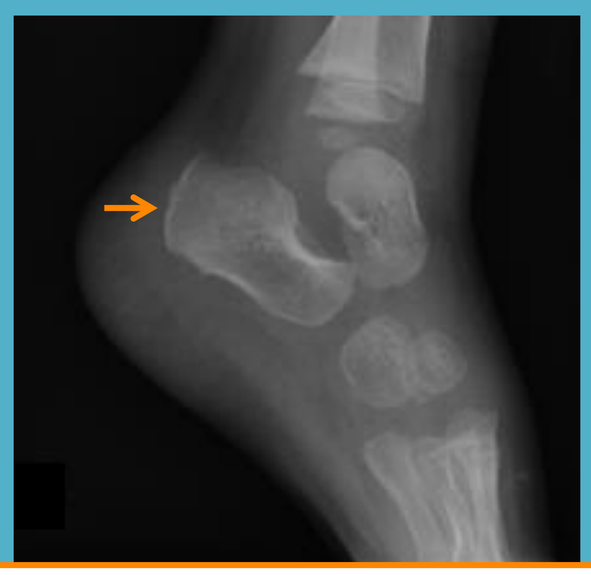
Pharyngitis

Lower limb claudication for 15 days

Low grade fever (max 39ºC) for 1 week

Left heel edema

WBC	9.700 /L
ESR	17 mm/h
CRP	11.9 mg/L



US: small tibiotarsal effusion + calcaneus hypoechoic area sugesting liquefaction.

Histology: inflammatory cells + bone abscess.

2 y/o

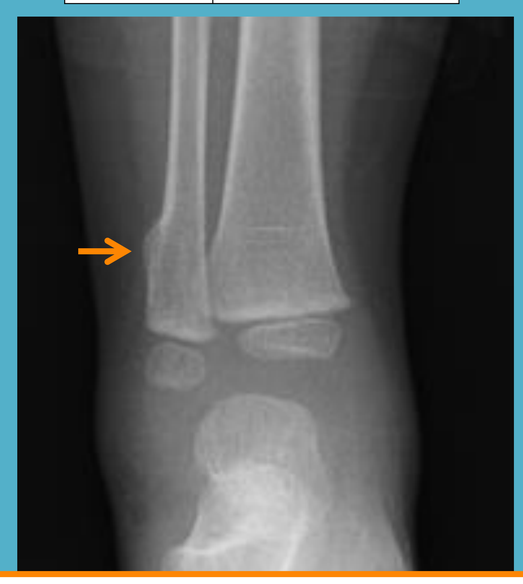
No recent infection

Lower limb claudication for 7 days

Low grade fever (max 39ºC) for 3 days

Right external malleolus edema / redness

WBC	11.300 /L
ESR	48 mm/h
CRP	43.5 mg/L



US: significant tibiotarsal effusion.

Surgical treatment + Empirical i.v. antibiotherapy (Flucloxacillin 200 mg/Kg/d + Gentamycin 6 mg/Kg/d)

Blood culture: all negative	**Bone aspirate / synovial fluid culture** (BacT/Alert Pediatric®): ***Kingella kingae***

Diagnostic delay: 12±6 days

Amoxicillin-clavulanate OR **Cefuroxime** i.v.

Negative inflammatory markers: 8±2 days → oral antibiotherapy

Treatment duration: i.v. 8±2 days, oral 26±5 days, total 34±6 days	**6 month follow-up**: no clinical or radiologic sequelae

DISCUSSION

In these cases, several characteristics of *Kingella kingae* infections are identified, as young age, mild clinical presentation, normal-to-mild elevated inflammatory markers, single focus and favorable response to antibiotics. On the other hand, they show bone lytic lesions which are rarely described. These lesions can lead to important sequels and should be vigorously treated. History of recent upper respiratory infection can be a hint for the etiology, as *K. kingae* colonizes the posterior pharynx in <2 y/o children. Growth in solid culture medium is rare, therefore liquid medium should always be preferred for the diagnosis.

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References: **Yagupsky et al.** *Kingella kingae*: an emerging pathogen in young children. *Pediatrics* 2011;127:557–565. **Ferroni A et al.** Prospective survey of acute osteoarticular infections in a French paediatric orthopedic surgery unit. *Clin Microbiol Infect* 2013; 19: 822–828. **Jorge S et al.** *Kingella kingae* infections – the importance of blood culture. *Acta Pediatr Port* 2010;41(5):214-6. **Mallet C et al.** Unusually severe cases of *Kingella kingae* osteoarticular infections in children. *Pediatr Infect Dis J* 2014;33:1–4.