

EV1034

ePoster Viewing

Severe bacterial infections

Periprosthetic knee infection due to *Pasteurella multocida*: the cat was guilty!

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Objectives: Periprosthetic infections are most commonly due to staphylococci or less often to streptococci or Enterobacteriaceae. Here, we present an unfrequent case of prosthetic knee joint infection due to *Pasteurella multocida* after a cat scratch.

Case: A 76-year-old woman with a recent history of allergy to penicillins and cephalosporins presented with a total knee arthroplasty infection consisting of an acute septic arthritis associated with an abscess of the anteromedial side of the right knee. Patient interview revealed that she had been scratched by her cat over the forearms two weeks before the symptoms onset. Cytological analysis of the synovial fluid indicated a bacterial infection (purulent fluid, leukocyte count of $80.10^9/L$ with 99% neutrophils). Cultures were positive for *Pasteurella multocida* with three distinct colony morphotypes. All three were susceptible to beta-lactams (penicillinase negative). Two were characterized by punctiform and slow-growing colonies, evocative of Small Colony Variants (SCVs).

After arthrotomy and irrigation, the patient was treated with ertapenem (2g/day, IV) because of the history of allergies. An iterative arthrotomy and irrigation with a flap coverage was necessary one month later due to a pretibial skin damage. No bacteria was isolated in culture at that time. Evolution was initially favorable after three months of treatment but recurrence was recently diagnosed 7 months after the initial infection with isolation of *P. multocida* from osteoarticular samples (still susceptible to ertapenem).

A mouth swab screening of the patient's cat was realized few days after the initial episode and allowed to isolate a strain of *Pasteurella multocida* without SCVs. Comparison of patient's and cat's strains (including SCVs colonies) using Pulse-Field Gel Electrophoresis (PFGE) showed that all the profiles were identical. This confirms the presence of several variants of a same strain in the patient and the hypothesis of hematogen transmission related to the scratch.

Conclusion: *Pasteurella multocida* is a rare cause of prosthetic joint infection. Multiple treatment options for this infection have been proposed in the literature and there is no consensus. The few published cases systematically found cat or dog contact and have never described SCVs. Bites and scratches must not be overlooked among patients with prosthetic joint since they are potential sources of severe and difficult-to-treat infections.