Animal contact: The patient’s dog was reported to have licked an open wound on his foot. Broken skin due to flaring psoriasis was the portal of entry. *Pasteurella* and *Salmonella* spp. were probably acquired from the dog’s oral flora. It is unusual to have one pathogen causing a septic arthritis and at the same time another causing a bacteraemia.

Haematogenous spread: Most cases of *Pasteurella* bone and joint infection are due to direct inoculation or contiguous spread from skin infection. Haematogenous spread, as we presume in this case, is less common.

Risk Factors: Diabetes is a risk factor for both invasive *Pasteurella* and *Salmonella* infection.

### Initial Presentation

- **66 year old male**
- **PMH:** psoriasis and poorly controlled type 2 diabetes
- **SH:** pet dog
- **PC:** subacute onset of fever and swollen, painful left knee

WCC $17 \times 10^9/L$, CRP 303 mg/L

XR left knee in A+E: large effusion

Joint aspirate in A+E: Gram negative coco-bacilli identified as *Pasteurella multocida*

Blood culture taken in A+E: *Salmonella enteritidis*

### Management

**Day 1:** arthroscopic left knee washout and empiric cefuroxime 1.5g IV TDS

**Day 2:** switched to benzylpenicillin 1.2g QDS IV to treat penicillin sensitive *Pasteurella*

**Day 3:** 2nd arthroscopic left knee washout

**Day 4:** switched to amoxicillin 1g IV TDS to treat both *Pasteurella multocida* and *Salmonella enteritidis*

**Day 7-14:** leg remained swollen, red and tender and climbing CRP

**Day 11:** USS Doppler excluded DVT

**Day 17:** MRI showed osteomyelitis distal femur and proximal tibia and large collection in quadriceps and lower leg.

### Further Management

**Day 18:** Incision and drainage left thigh and calf and knee washout.

**Day 22:** Amoxicillin dose increased to 1g QDS. CRP down to 41

**Day 20, 21, 25, 29, 33:** Further washout and debridement procedures

**Day 37:** uncontrolled infection so patient was transferred to Regional Plastics Unit

### Microbiology Results

Joint aspirate and theatre samples x6: *Pasteurella multocida*

Blood culture: *Salmonella enteritidis*

HIV: negative

### Discussion Points

- **Animal contact:** The patient’s dog was reported to have licked an open wound on his foot. Broken skin due to flaring psoriasis was the portal of entry. *Pasteurella* and *Salmonella* spp. were probably acquired from the dog’s oral flora. It is unusual to have one pathogen causing a septic arthritis and at the same time another causing a bacteraemia.

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