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P436 -Rat bite fever: a case report

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Background: Rat bite fever is a rare disease caused by two main pathogens, *Streptobacillus moniliformis* and *Spirillum minus*, transmitted in rat saliva. *S. moniliformis* causes a systemic illness characterized by rash, migratory polyarthralgias and fevers. It is rare in the UK with only 1 to 2 cases reported each year. Symptoms usually present 3 to 10 days after contact with the bacteria. We report a case of *Streptobacillus moniliformis* rat bite fever, complicated by acute kidney injury, in a young previously well man.

Case presentation: A 56-year-old man presented to his local emergency department with rigors and pyrexia (39°C) two days after being bitten by a rat. The bite wound was well healed with no signs of infection. All blood investigations were normal and he was discharged. Two days later he returned critically unwell: he was cyanotic, with cold, dusky peripheries and capillary refill time over 10 seconds. A non-blanching purpuric rash was present on his legs and buttocks. His bloods were markedly deranged with raised inflammatory markers (WCC 20), a high lactate (10.4), abnormal renal function (Cr 301 from a baseline of 97), thrombocytopenia and prolonged clotting. He was diagnosed with severe sepsis, complicated by disseminated intravascular coagulation, acute kidney injury stage 3, requiring intensive care support with haemofiltration and later haemodialysis on the wards. Initial blood cultures were negative but eventually *Streptobacillus moniliformis* was identified using bacterial 16S rRNA gene sequencing. His admission was further complicated by gangrene in his feet, a type 2 myocardial infarction and a hospital acquired pneumonia.

Conclusions: This case highlights the importance of considering uncommon diagnoses in patients with pyrexia and a distinct source of infection. The mortality for cases of untreated *Streptobacillus moniliformis* is 10%. This patient experienced life-threatening sepsis and has been left with ongoing renal impairment, dilated cardiomyopathy and partial amputations of his gangrenous toes. Early identification and treatment of rat bite fever is key to improving outcomes in cases such as this.