# A feline encounter: A rare but serious cause of septicaemia.

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### Background:

- Capnocytophaga is a serious cause of sepsis following dog bites or cat scratch.
- This is especially so in immuno-compromised hosts.
- Capnocytophaga spp was first described in 1976.<sup>1</sup>
- It is a slow-growing Gram-negative bacilli and facultative anaerobe. It inhabits the oral cavities of cats and dogs.<sup>6</sup>
- It is now recognised as a rare but serious cause of sepsis, with very few cases reported in the UK.<sup>2 5</sup>
- It has an estimated mortality rate of about 26%.<sup>3 4</sup>
- The median time from bite/scratch to symptoms is about 3 days (ranging 1–8 days).<sup>2</sup>
- Typical clinical manifestations are those of fulminant sepsis with fever, purpuric rash, acute kidney injury, and confusion.

# **Case Presentation:**

- We present the case of a 60-year-old man with background of Non-Hodgkin's Lymphoma that resulted in Splenectomy.
- He was referred with a 5-day history of feeling unwell with diarrhoea and chills.
- He was a cat-owner who had a scratch on his arm by a stray cat that was trying to steal his cat's food, 7 days prior to onset of symptoms.
- His past medical history was remarkable for Non-Hodgkin's Lymphoma, Myocardial infarction and Hypertension.
- On examination he had a low blood pressure, occasional low-grade fever and a visible scratch mark on his right forearm.





## vestigations:

- Laboratory tests revealed neutrophilic leucocytosis of 31.1 X 10<sup>9</sup>/L, thrombocytopenia of 38 X 10<sup>9</sup>/L, moderate azotaemia with urea 20.8 mmol/L and creatinine of 410 umol/L. His C-Reactive Protein was elevated at 396 mg/L.
- He had elevated liver enzymes, acidosis and raised inflammatory markers.
- Initial blood culture showed a gram-negative rod.
- The microbiology lab was informed of the possibly of Cyanophage based on the history of cat scratch and asplenia.
- The organism cultured was later confirmed to be Capnocytophaga spp by the microbiology lab.

#### Treatment:

- He was treated with a 14-day course of appropriate antibiotics and supportive treatment.
- He had a combination of IV Ceftriaxone, oral Co-amoxiclav and Metronidazole.
- He was followed up in clinic 6 weeks later and he was fully recovered. Most of his investigation results were back to normal.
- He was discharged and advised to let his General Practitioner know whenever he has a cat or dog scratch/bite to prevent the occurrence of serious infections.

# Discussion:

- Capnocytopha sepsis is rare cause of sepsis in the immunocompromised.
- Very few cases have been reported in the UK, so high index of suspicion is needed.
- In this case, the patient presented relatively early with non-specific symptoms.
- Good history-taking and early use of appropriate antibiotics helped to prevent what would have been a case of fulminant sepsis in this patient.

# Conclusion

- Capnocytophaga is a rare but serious sepsis especially in pet owners.
- Infection usually occurs few days following a dog bite or cat scratch.
- It is more likely to occur in people asplenia or other immunosuppression.
- Good history-taking and close liaison with microbiology lab helps to facilitate the identification of the organism.
- This case illustrates the importance of having a high index of suspicion in patients with features of sepsis and asplenia.
- This case also demonstrates the potentially life-saving role of simple safety-netting advice about pets in patients with high risk of Capnocyphaga sepsis.

# **References:**

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