LearnInfection
a learning platform for infection trainees

Severn Deanery **Bug of the Week**
13.05.2019

Capnocytophaga

Background:
A genus of gram-negative bacteria involved in the pathogenesis of some **animal bite wounds** as well as periodontal disease.
Two groups:
Species associated with dog and cat bite infections: *C. canimorsus* & *C. cynodegmi.*
Species found in the human mouth: *C. ochracea, C. gingivalis, C. sputigena, C. haemolytica* & *C. granulosa.*

Figure 1: Plate showing *Capnocytophaga* growing https://www.cdc.gov/capnocytophaga/health-care-professionals/index.html

Etymology:
Capno, smoke; *cytophaga*, eater (literally this means "eater of smoke"; refers to the requirement for carbon dioxide for growth).

Microbiology & identification:
Long, thin, **delicate GNRs, typically fusiform**. Facultative anaerobes which grow best with **CO_2** enrichment. Demonstrate a characteristic gliding motility when cultured on solid agar surfaces. Differentiation of individual species usually requires reference laboratory assistance. Generally species from the human mouth are oxidase-negative and catalase-negative whilst those from animals' mouths are oxidase-positive and catalase-positive.

Clinical implications:
Opportunistic infections: patients who are **asplenic, alcohol-dependent or on steroids** are at particular risk of a variety of infections, including periodontitis, bacteraemia and endocarditis from the species that colonise the human oropharnynx.
Infected animal bite wounds: from the species that colonise the oral cavities of dogs and cats.

Treatment:
No consensus exists about the choice of antibiotics and length of treatment. First line treatment depends on the infection site, severity and patient characteristics.
To prevent systemic infections following bites, local wound care and co-amoxiclav is usually recommended. Resistance to the beta-lactams has been reported in the human mouth species. **All species are usually sensitive** to **clindamycin**, erythromycin, **tetracyclines** and **quinolones.**

Resources
https://www.cdc.gov/capnocytophaga/health-care-professionals/index.html