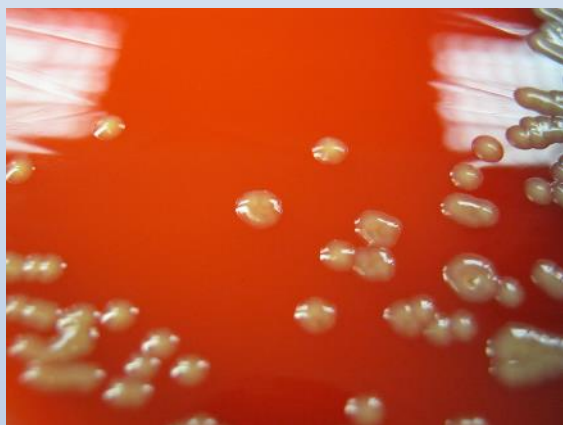




Stenotrophomonas *maltophilia*

Background:

- *Stenotrophomonas maltophilia* (commonly called Steno) is a common **environmental** organism (soil, water, plants), also found in the hospital environment. Can be a nightmare to treat. It is a gram-negative rod, closely related to *Pseudomonas*.
- Risk factors for infection / colonisation include: mechanical ventilation; prior exposure to broad-spectrum antibiotics; and prolonged hospitalisation. Also cystic fibrosis



Stenotrophomonas maltophilia.
Image from mostly*harmless @Flickr

Microbiology and identification

- Gram negative rod.
- Easily grows on common media: MacConkey, Blood, CLED
- Colonies may be yellow/green on blood agar.
- Oxidase **NEGATIVE**
- Lactose **NON**-fermenter
- Catalase positive.
- Resistance to imipenem may be a useful indicator

Transmission: does not readily spread between patients. Not a common cause of HCAI.

Clinical manifestations

- Steno is a common coloniser, and therefore there must be a clinical illness compatible with the culture.
- Healthcare-associated infections: bloodstream. HAP, VAP, UTI or SSI.
- Unusual in immunocompetent. Usually only in those with significantly impaired defences (esp **lung disease or haem malignancy**).

Antimicrobial therapy and resistance

++ resistance genes and mutations (chromosomal β lactamases, chromosomal aminoglycoside acetyl transferase enzymes, multidrug efflux pumps; plus formation of biofilms)

Susceptibility testing in Steno is difficult as incubation temperature, culture medium, and technique markedly affects results, culture medium, and technique

- Firstly, it is key to identify if treatment is warranted.
- EUCAST currently only recommends breakpoints for co-trimoxazole (susceptible ≤ 4 mg/L)
- Traditional advice has been **high dose co-trimoxazole**, at PCP dosing (120mg/kg).
- This is hard, for two reasons: There is a large volume of fluid in each bag (minimum fluid requirement is 1.5L a day for a 75kg patient), and co-trim has a very significant side effect profile, with renal toxicity and rash being most troubling.
- CLSI / IDSA also include recommendations for: minocycline, tigecycline, levofloxacin or ceftiderocol. Combination of aztreonam with ceftazidime/avibactam may be an option.
- See IDSA guidelines for mono/dual treatment options.

Sources:

EUCAST guidance document on *Stenotrophomonas*

PHE gov.uk *Stenotrophomonas maltophilia*

IDSA Guidance on the Treatment of Antimicrobial-Resistant Gram-Negative Infections: Version 2.0