Big Bad Bacteria: A sickling case of *Ochrobactrum*

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Introduction

- Long-term implanted vascular devices may present with several complications.
- We describe a case of a sickle cell vaso-occlusive crisis triggered by bacteremia with the rare pathogen *Ochrobactrum anthropi* in a patient with an indwelling chest port.

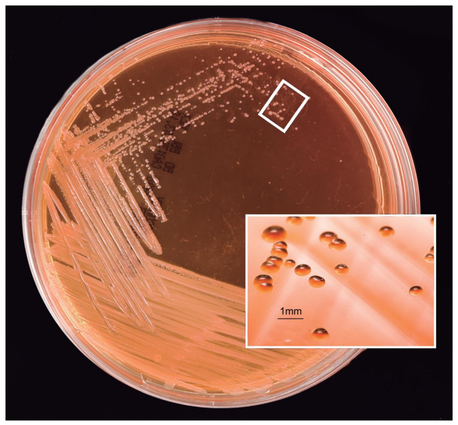

Fig 1. *O. anthropi* in MacConkey at 37°C.
Adapted from "Ochrobactrum anthropi," by L. de la Maza, published in *Revista Chilena de Infectología*

Case Presentation

- A 26-year-old male with HbSS sickle cell disease and recurrent vaso-occlusive crises requiring a right chest port presented with chest and back pain consistent with an **acute vaso-occlusive crisis**.
- Infectious workup (CXR, CT chest/abdomen/pelvis, urinalysis) was unremarkable with **no localizing signs of infection** (e.g., cough, diarrhea, dysuria).
- Blood cultures were obtained upon admission, and IV Piperacillin-Tazobactam and Vancomycin were started. Antibiotics were discontinued after 24 hours with symptom improvement.
- On day 2, repeat blood cultures grew ***Ochrobactrum anthropi***, prompting re-initiation of Piperacillin-Tazobactam.
- The chest port was identified as the infection source, requiring removal. Bacteremia resolved, and new internal jugular Chemo-Port was placed.
- He had been treated with fluoroquinolones and **broad-spectrum antibiotics in 4 prior crises**.
- He was discharged with a 7-day course of oral Levofloxacin to complete 14 days of antibiotics.

Discussion

- This case highlights that unique pathogens can be associated with long-term implantable devices. In sepsis, clinical suspicion of **any persistent foreign body** should be high.[1]
- *Ochrobactrum anthropi* was initially recognized for its broad environmental presence (e.g., soil, aquatic environments) but later identified within clinical contexts through foreign body infection (e.g., catheter, indwelling port).[2]
- Initial cases describe *O. anthropi* infections in immunocompromised patients with **iatrogenic devices** (e.g., peritoneal dialysis catheters).[3]
- Although the identified strain was sensitive to Piperacillin-Tazobactam, this case underscores the importance of obtaining blood cultures and susceptibility testing early.
- Resistance development leads to complex bacterial susceptibilities, requiring a careful balance of **antibiotic stewardship** and clinical acumen to tailor treatment regimens.[4]
- We emphasize the need for urgent removal of any subcutaneous foreign body in septic patients, as **source control** is instrumental to resolving bacteremia.
- A targeted, precise approach to antibiotic stewardship is crucial to ensure effective outcomes and minimize the risk of rare, fastidious bacterial infections.

Fig 2. Resistance testing
Adapted from "Antibiotic sensitivity and resistance" by M. H. J. Mehta et al.

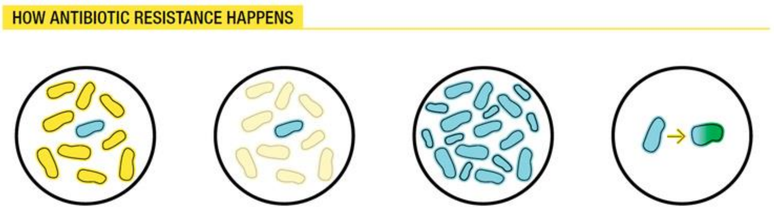

Fig 3. Development and conferral of resistance.
Adapted from Chief Public Health Officer of Canada's Spotlight Report 2019: Preserving Antibiotics Now and Into the Future.

Conclusions

- Sepsis guidelines emphasize early broad-spectrum antibiotic initiation to improve survival outcomes.
- **Early nidus removal** should be considered alongside antibiotic therapy, as well as **early susceptibility testing.**
- Symptomatic improvement is insufficient to ascertain resolution of bacteremia; removal of the infection source is crucial, as demonstrated in our case.
- Practicing **antibiotic stewardship is essential** to mitigate the emergence of rare or resistant bacteria.

References

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