WHEN A ZEBRA VENTURES IN: HOW A PATIENT SURVIVED A FATAL INFECTION FROM *CLOSTRIDIUM SORDELLI*

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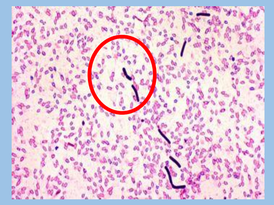
Introduction

- Gram positive, anerobic bacillus



- Sources (as per case series in 2006[1])

Source	Prevalence
Post trauma/surgery	43%
Injection drug use	22%
Normal childbirth	18%
Medical abortion	11%
Spontaneous abortion	0.4%

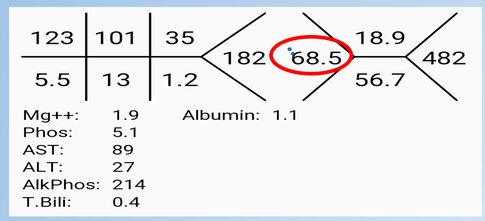
- Why is *Clostridium sordelli more* toxic?
  - ➢ Unique genome to grow on peptide nutrient sources in soft tissue.[2]
  - ➢ Proteins involved with potassium transport play a role in broad pH survival. [2]

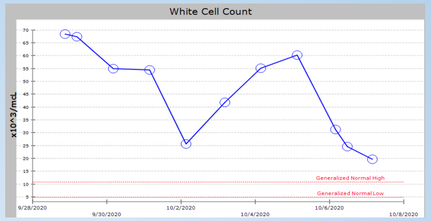
Case

37-year-old female G0P0 with complaints of pain and swelling under the left breast for a week after injecting methamphetamine into the nipple.

- **Past Medical History**: Insulin-dependent diabetes mellitus type-2
- **Social History:** Tobacco use ,Intravenous drug use (methamphetamine)
- **Vitals:** Temp- 36.0C, Tachycardia, Tachypnea, Hypotension

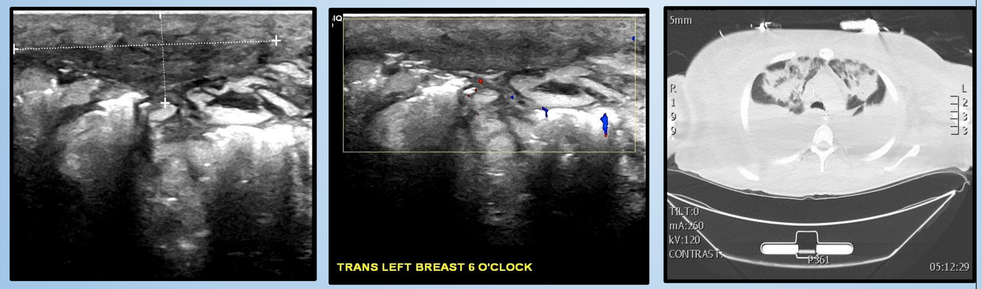
- **Physical exam:** erythematous, indurated, and painful area of fluctuance measuring 1-2 cm at 5 to 6 o'clock position.
- **Labs & Microbiology:**





- Blood & wound cultures positive for *Clostridium sordelli*

- **Imaging:**

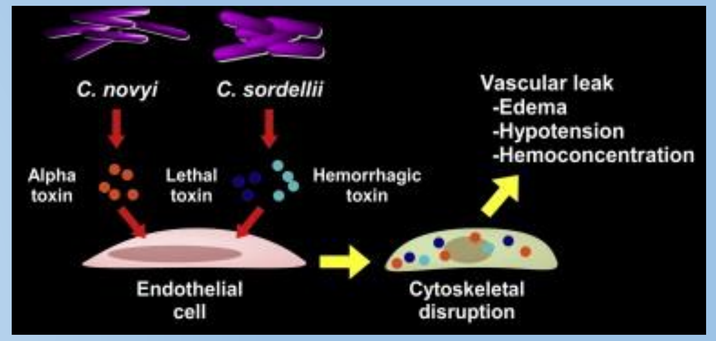


(A) US Breast with abscess 4.36cmx3.1cm (B) After incision and drainage (C) CT Chest without contrast

- **Clinical Course:**
  - ➢ Source control with Incision and drainage of abscess followed by debridement, antibiotic coverage.
  - ➢ Prolonged ICU course with pressor support, therapeutic & diagnostic thoracentesis, mechanical ventilation, renal replacement therapy.
  - ➢ Out-patient follow up with plastic surgery.

Discussion

- Toxin mediated shock syndrome
- Pathophysiology:



- Low prevalence, early non-specific symptoms, lack of rapid tests
- Mortality rate: >90 %[1]
- High degree of suspicion

Disclosure

We have no financial interest or conflicts of interest with the presented material.

References

- 1. Aldape, M. J., Bryant, A. E., & Stevens, D. L. (2006). Clostridium sordellii infection: epidemiology, clinical findings, and current perspectives on diagnosis and treatment. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America, 43(11), 1436–1446. https://doi.org/10.1086/508866
- 2. Bangsberg, D. R., Rosen, J. I., Aragón, T., Campbell, A., Weir, L., & Perdreau-Remington, F. (2002). Clostridial myonecrosis cluster among injection drug users: a molecular epidemiology investigation. Archives of internal medicine, 162(5), 517–522. https://doi.org/10.1001/archinte.162.5.517
- 3. Browdie, D. A., Davis, J. H., Koplewitz, M. J., Corday, L., & Leadbetter, A. W. (1975). Clostridium sordelli infection. The Journal of trauma, 15(6), 515–518. https://doi.org/10.1097/00005373-197506000- 00011
- 4. Gray, S. F., & Dieudonne, B. E. (2018). Clostridium sordelli causing malignant edema in a trauma patient: a case report and review of literature. The Pan African medical journal, 30, 118. https://doi.org/10.11604/pamj.2018.30.118.14156
- 5. Akiko C. Kimura, Jeffrey I. Higa, Robert M. Levin, Gail Simpson, Yolanda Vargas, Duc J. Vugia, Outbreak of Necrotizing Fasciitis Due to Clostridium sordellii among Black-Tar Heroin Users, Clinical Infectious Diseases, Volume 38, Issue 9, 1 May 2004, Pages e87–e91, https://doi.org/10.1086/38347