

Puerperal Group A Streptococcus Infection Mimicking Gastrointestinal Ileus

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Background

- Puerperal Group A Streptococcus (GAS) infections rarely occur in the United States; however, cases have been rising over the past few years.¹
- Between 1995 and 2000, there have been 220 reported cases of GAS in the postpartum period with an approximately 3.4% mortality rate.²
 - If toxic shock symptoms are present, this rate increases to almost 49%.²
- There is an 89 times higher chance for GAS sepsis in pregnant and postpartum patients compared to the general female population.³
- Specific criteria must be met to establish a Streptococcal Toxic Shock Syndrome diagnosis: Isolation of GAS from a culture, hypotension, multi-organ involvement including at least 2 systems, generalized erythematous macular rash, soft tissue necrosis.²

Objective

Due to the variety of presentations and rapid progression of the disease it is important to recognize and treat GAS appropriately to prevent the high likelihood of morbidity and mortality.

Methods

- 33-year-old, Caucasian, G2P2002 postpartum day 2 from an uncomplicated, spontaneous vaginal delivery presents with severe abdominal pain and distention
- Reports “**sore throat**” in week prior to second vaginal delivery.
- **Obstetric history:** Previous uncomplicated spontaneous vaginal delivery in 2021
- **Past medical history:** Asthma
- **Past surgical history:** Tonsillectomy and tympanostomy tubes as a child
- No known allergies. Denies drug, alcohol, and tobacco use.

Case

- On postpartum day 2, patient complained of acute onset pelvic and abdominal pain. Vital signs stable and afebrile. Abdomen tender but no guarding or rebound tenderness. Stat CT abdomen showed **small bowel ileus without obstruction**. Proceeded with supportive care.
- Through the day, patient developed **acute abdomen, 63/33 blood pressure, and acidosis** consistent with septic shock and was transferred to the ICU. Aggressive fluid resuscitation, pressor support, and **broad spectrum antibiotics started**.
- Repeat CT (Figure 1) demonstrated **worsening small bowel enteritis with small bowel ascites and inflammation**. No evidence of ischemic bowel seen. Labs revealed renal impairment (Creatinine=1.1) and thrombocytopenia (Platelets=94k).



Figure 1: CT scan obtained following diagnosis of septic shock showed small bowel ascites and inflammation.

- Endometrial biopsy showed **grams-positive cocci with necrosis** and blood cultures showed Group A Streptococcus Pyogenes to confirm the diagnosis. Antibiotic regimen changed to **Penicillin** 24 million units daily x 10 days, **Clindamycin** 900 mg every eight hours, and **IVIG**.
- Proceeded to the OR for an exploratory laparotomy resulting in **total abdominal hysterectomy, bilateral salpingectomy**, and left oophorectomy. 3 liters of purulent ascites but **no evidence of bowel necrosis**. Patient required intubation following procedure.
- Patient rapidly progressed to **normal bowel function** and **regular diet** by postoperative day 5 and transitioned to **Ceftriaxone 2g IV daily** upon discharge.
- Pathology results from surgical specimens revealed acute inflammation, purulence, and presence of bacterial cocci.

Discussion

- If GAS is suspected, it is recommended to obtain two sets of blood cultures (aerobic and anaerobic) from different sites and endometrial biopsy with aspirate culture prior to antibiotic administration.²
- Once sepsis is diagnosed, aggressive IV crystalloid fluid resuscitation⁵ and treatment with Penicillin and Clindamycin is recommended for at least 2 weeks following resolution of symptoms. If allergic to Penicillin, Vancomycin can be used instead.²
- Source control is necessary to stop infection spread within 12 hours of presentation.⁴ However, if there is no evidence of end organ damage, non-operative management only can be considered.²
- Group A Streptococcus infection tends to present in the postpartum period in clusters of cases thought to be due to inoculation from infected health care workers or contaminated instruments.^{2,3}

Conclusion

- Although patient presented with atypical symptoms, she exhibited hypotension, renal impairment, thrombocytopenia, acute respiratory distress syndrome, and isolation of Group A Streptococcus.
- The **early suspicion** for, diagnosis of GAS, and interdisciplinary care likely decreased her morbidity.

References

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