Group A Streptococcal Peritonitis Secondary to Spontaneous Pelvic Inflammatory Disease: A Case Report

Dr Chanmony Ing[1], Dr Alexander Lindgren[1]

1 Obstetrics and Gynaecology, Ipswich Hospital, West Moreton Hospital and Health Service, Queensland

RANZCOG Regional SYMPOSIUM 2026 Swan Valley

Background

Group A Streptococcal (GAS) peritonitis is a potentially life-threatening infection.[1] More than 85% of pelvic inflammatory disease (PID) is caused by sexually transmitted infection (STI) or bacterial vaginosis and much less commonly, GAS.[2] GAS is associated with PID in peripartum, intra-uterine device (IUD) insertion, and following gynaecological procedures. Spontaneous GAS pelvic infection is rare.[3]

Aim

To highlight the challenge in diagnosing GAS peritonitis related to PID in patients with no identifiable risk factors.

Case

A 21-year-old G0P0 woman presented to the emergency department with two days history of right lower quadrant (RLQ) abdominal pain, associated with nausea, diarrhoea and intermittent fever. She had recently travelled to the Cook Islands and had close contact with a confirmed case of dengue fever. Her last menstrual period was two days prior to presentation. She has no history or symptoms of STI. She has no history of recent pharyngitis, oro-genital sexual practice, use of menstrual cup or IUD insertion.

Physical examination: initially normal vitals, RLQ tenderness, McBurney's point tenderness, nil peritonism.

Investigations: Hb 125g/L, **WCC 12.8 x 10^9/L**, **CRP 131mg/L**, β-hCG negative, eGFR 80, Cr 89 umol/L, urine MCS NAD.

Case cont.

Investigations: CT abdomen and pelvis demonstrated right paracolic stranding and reactive lymphadenopathy.

She was admitted under the medical team with presumed infectious colitis and possible dengue fever. Forty-five hours after admission she deteriorated with sepsis and generalised peritonism, prompting urgent review by both general surgery and gynaecology.

Further investigations: full STI screen/high vaginal swab negative, dengue serology/PCR negative, multiple blood cultures negative. Ultrasound pelvis showed no evidence of tubo-ovarian abscess or abnormalities in the pelvis.

Result

Emergent diagnostic laparoscopy was performed by general surgery, findings included:

- Haemopurulent fluid within the pouch of Douglas
- Bilateral oedematous inflamed fallopian tubes
- Fibrinous deposits over the liver capsule
- Normal appendix, ovaries, and uterus

The provisional diagnosis was **PID**. The patient was admitted to ICU post op for four days due to septic shock secondary to PID, complicated by hospital acquired pneumonia. The intraperitoneal fluid culture later identified GAS, confirming the microbiological cause. Antibiotic therapy was adjusted to IV piperacillin/tazobactam for one week. The patient made a full recovery at the 2-week post op review in the gynaecology outpatient department.

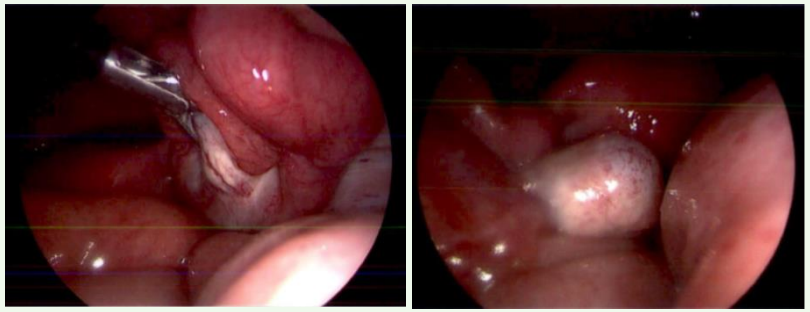

Figure 1: Images from laparoscopy

Discussion

GAS peritonitis related to spontaneous PID is extremely rare but life-threatening. It requires prompt diagnosis and management due to major mortality risk and potential reproductive consequences. The pathogenesis of spontaneous GAS-associated PID remains poorly understood. Case reports have described associations with recent menstruation, menstrual cup use and oro-genital sexual practices.[3] The symptoms of peritonitis can mimic gastrointestinal infection or appendicitis[1], which is demonstrated in this case, hence making the diagnosis challenging which can lead to a delay in treatment.

A high index of suspicion for gynaecological pathology is essential in women of reproductive age presenting with acute abdominal pain. Clinical assessment including sexual history, reproductive history and pelvic examination should be considered to identify risk factors, symptoms and signs to facilitate diagnosis and prompt treatment.

References

1. Prabhu P, Wilson N, Durling L. Rare cause of acute abdomen: group A streptococcus peritonitis. BMJ Case Rep. 2024 Mar 12;17(3):e253100.
2. Brunham RC, Gottlieb SL, Paavonen J. Pelvic Inflammatory Disease. New England Journal of Medicine 2015 May 21; 372(21): 2039-48.
3. Snyder A, Schmalzle SA. Spontaneous Streptococcus pyogenes pelvic inflammatory disease; Case report and review of the literature. IDCases 2020 May 5; 20: e00785.