Postpartum Endometritis

Infection of the uterine endometrium by vaginal bacteria is the most common cause of puerperal fever. Pathogenesis involves inoculation of the amniotic fluid during labor, leading to infection of the endometrium and spread by contiguity to the myometrium and other pelvic structures. Generally occurs in the first few days post-partum and responds to therapy within 48 hours; failure to respond to therapy suggests abdominal wound infection, retained products of conception or pelvic abscess.

RISK FACTORS:

- Cesarean delivery without antibiotic prophylaxis pre-skin incision
- Cesarian delivery after prolonged labor
- Chorioamnionitis during labour; prolonged duration of labor/membrane rupture
- Group B *Streptococcus* (GBS) colonization during pregnancy
- Bacterial vaginosis during pregnancy
- Maternal obesity (BMI > 30 pre-pregnancy)
- Iatrogenic: frequent vaginal examinations, manual removal of placenta, internal fetal monitoring

It is uncommon after vaginal delivery, in cases having received antibiotics during labor, or if antibiotic prophylaxis is given before skin incision for Cesarean delivery.

CLINICAL PICTURE: Fever in the first 10 days post-partum (temperature > 38.5°C in first 24 hours after delivery, or > 38°C for at least 4 consecutive hours) + lower abdominal pain, uterine tenderness if vaginal delivery, purulent lochia, or leucocytosis (WBC > 15,000 post partum)

Severe infection/sepsis should be suspected in cases with: High fever (> 38.9°C) + sustained tachycardia (> 110 bpm for at least 30 min) OR sustained tachypnea (RR > 20/min for at least 30 min) OR sustained hypotension (BP < 90/60 for at least 30 min)

COMMON ETIOLOGIC AGENTS: Polymicrobial with aerobic and anaerobic bacteria including: GBS, other aerobic streptococci e.g. Group A streptococci (GAS), enterococci, gram-negative bacilli, *Gardnerella vaginalis*, *Bacteroides sp*, *Peptoniphilus sp* and *Clostridium sp*.

IF HIV +: Consult ID

RECOMMENDED MICROBIOLOGICAL WORKUP

- Obtain blood cultures x 2 (different venipuncture sites) ***prior*** to starting antibiotics
- Culture of C-section incision site if looks inflamed or purulent
- Culture of vaginal secretions (Vag swab) to R/O GBS or GAS
- Test for *Chlamydia* if patient presents > 7 days after delivery

EMPIRIC ANTIMICROBIAL REGIMEN

Early onset endometritis **Not severe** Clinical response expected within 48 h Duration of treatment: until afebrile x 48h and pain-free	**Not known GBS colonized:** Clindamycin 900 mg IV q8h AND Gentamicin* 5 mg/kg IV q24h **Known GBS colonized:** Ampicillin 2 g IV q6h AND Clindamycin 900 mg IV q8h AND Gentamicin* 5mg/kg IV q24h *If non-severe hypersensitivity to penicillin*: replace ampicillin with Ceftriaxone 2 g IV q24h
Early onset endometritis – Severe infection or sepsis Clinical response expected within 48 h Duration of treatment: until afebrile x 48h and pain-free	Piperacillin-tazobactam 4.5 g IV loading dose over 30 minutes, then 4.5 g IV q8h with continuous infusion over 4 h *If hypersensitity to penicillin*: Meropenem 1 g IV q8h
Late onset endometritis (> 1 week post-partum)	Amoxicillin-clavulanate 875 mg PO BID x 7 days *If hypersensitivity to penicillin*: Clindamycin 600 mg PO q6h x 7 days
Persistent postpartum fever (after 48 h of antibiotic regimen)	Add ampicillin 2 g IV q6h if was not part of initial regimen; Imaging to r/o pelvic abscess, thrombophlebitis **Consult ID**

**Consult pharmacy for gentamicin dosing*

REFERENCES

- Gilbert, D. N. The Sanford guide to antimicrobial therapy 2020. Dallas, TX: Antimicrobial Therapy, Inc.
- Mackeen, A. D. Antibiotic regimens for postpartum endometritis. Cochrane Database of Systematic Reviews. 2015; Issue 2. Art. No.:CD001067. DOI:10.1002/14651858.CD001067.pub3. Accessed 24 November 2020.

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