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Puerperal Sepsis among Postnatal Women & Its Treatment: A Case Study

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ABSTRACT

Puerperal sepsis is an infection of the genital tract occurring any time between rupture of membranes, labor and the 42-day postpartum. This is a severe inflammatory reaction to an infection caused by bacterial, viral, fungal or parasitic pathogens that occurs after childbirth, miscarriage or an unsafe abortion. Sepsis may be localized in the uterus, vagina, cervix or perineum. Sign & Symptoms are pelvic pain, fever, abnormal vaginal discharge or delay in uterine involution. Roughly 1 in 1000 postpartum women may experience a serious infection of these, 3%–4% will develop septic shock, and half will advance to sepsis with organ failure. So the early diagnosis and treatment can eliminate major complication and life threatening conditions.

Introduction

According to the World Health Organization (WHO) in 2015, puerperal sepsis was an infection of the genital tract that occur any time after rupture of membranes, during labor and the 42-days of postpartum.[1] Puerperal sepsis is a severe inflammatory reaction to an infection which is caused by bacterial, viral, fungal or parasitic pathogens after childbirth, miscarriage or an unsafe abortion[2]. Puerperal sepsis may be in the uterus, vagina, cervix or perineum. Uterine infections can spread due to virulent organisms, compromised maternal immunity and other causes. There is a range of endogenous or foreign pathogens causes puerperal sepsis which includes Escherichia coli, Chlamydia, Klebsiella, Staphylococcus, Clostridium tetani, Clostridium welchi.[3] When infection extends outside the uterus, it can cause oophoritis (inflammation of the ovaries), salpingitis (inflammation of the fallopian tubes), parametritis, peritonitis and septicaemia.[4]

Worldwide, obstetric infections are considered to be the second leading cause of maternal mortality after postpartum haemorrhage (PPH), accounting for 10.7% of all deaths.[4] Puerperal Sepsis is the third leading cause of direct maternal mortality in developing nations.[5] At least 75 000 maternal deaths occur annually due to Puerperal Sepsis.[6] Roughly 1 in 1000 postpartum women may experience a serious infection out of these 3%–4% will develop septic shock, and half will advance to sepsis with organ failure.[7]

Further Studies have reported that risk factors which contributes to puerperal sepsis includes prolonged labor, early rupture of membrane for more than 24 h, repeated vaginal examination for more than five times during labor, retained products of conception, and maternal anemia.[8] The report also showed that two or more symptoms must present like pelvic pain, fever, abnormal vaginal discharge or delay in uterine involution. [1]

Individual's knowledge and positive attitude on self-care practices are the key factors that help in promoting optimal postpartum women health.[8]

Further, antibiotics are the mainstay of treatment. Pain medications also very important because patients often have discomfort. Broad-spectrum antibiotics are used for the treatment like Clindamycin: Inhibits bacterial protein synthesis, Dicloxacillin: A bactericidal antibiotic that inhibits cell wall synthesis, Gentamicin- An aminoglycoside antibiotic that covers gram-negative bacteria, Cephalexin: A first-generation cephalosporin that covers S. aureus in mastitis, Ampicillin: Used if enterococcal infection is suspected or if there is no improvement after 48 hours [9]

The prognosis for puerperal sepsis depends on the speed and effectiveness of treatment like early treatment recover most of the patient with no lasting effects if treated promptly with antibiotics and fluids. Severe sepsis with acute organ dysfunction has a mortality rate of 20–40% which increases to

60% if septic shock develops. Many survivors of sepsis experience life-changing effects such as chronic pain, fatigue, organ dysfunction, and amputations.[10]

Case Presentation

A 24 years old postnatal mother was admitted to Maharishi Markandeshwar College and Hospital, Kumarhatti, Solan in Postnatal Ward on dated 28/09/2024 with the chief complaints of fever (101°F) & headache since 3 days, pain on lower abdomen since 3 days, bodyache and abnormal foul Smelly vaginal discharge since 5 days.

There was history of prolonged labour i.e. more than 20 hours as mother was primigravida with POG 39 weeks 3 days and the birth weight of baby was 3.8kg.

There is no significant history of breast engorgement, mastitis, burning micturation, constipation.

Past Medical History

There was no significant history of Anemia, Gestational Diabetes Mellitus, Pregnancy Induced Hypertension, Tuberculosis, Hepatitis, Sexually Transmitted Diseases, HIV and Other Communicable Diseases.

Past Surgical History

There was no significant history of any general, Gynaecological surgery except there was history of episiotomy incision.

General Examination

Weight- 60kg

Height – 165cm

BMI – 22.03Kg/m^2

On examination there is presence of fever and uterus is found swollen, tender and soft. Presence of abnormal foul smelly vaginal discharge yellowish in colour. Mother was pale and lethargic.

Vital Signs

Temperature - 101°F

Pulse – 98 beats/minutes

Respiration – 22 breath/minute

Blood Pressure –100/60 mm/hg

SPO_2 – 94%

Pain – Moderate pain on lower abdomen assessed by pain rating scale (Score was 5 on numeric rating scale).

Special Investigation – Hb Estimation Test and its 11.2g/dl, Random Blood Glucose Test and its 90 mg/dl, Creatinine and its 2.7mg/dl , PAP Smear was normal, Urinalysis showed there was presence of UTI, Pelvic Ultrasound showed enlarged uterus and there is product of retained placenta.

Treatment

Injection Pantop 40 mg OD, Injection Metronidazole 0.5g OD, Injection Gentamycine 2mg/kg BD, PCM 500mg OD and Fluid was administered i.e. RL.

Intervention & Care Plan

Dilatation and evacuation was done as directed by doctors. I monitored postnatal mother vital signs including pain and given analgesics. Mother was advised not to douche and have intercourse for at least 1 week. Further not to do strenuous work like lifting heavy objects and do proper rest and take balanced diet rich in protein and vitamin C. Take adequate fluids. Advised for follow up as scheduled by doctors.

Conclusion

Sepsis occurs when bodily response to infection damages its own organs and tissues. If sepsis is not recognised early and treated timely it can progress to shock and death. Physiological, immunological and mechanical changes in pregnancy make pregnant women more susceptible to infections compared with non-pregnant women.[11] So the early diagnosis and treatment can eliminate major complication and life threatening conditions.

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