Puerperal sepsis

,

Puerperal sepsis also known as puerperal infections, is any bacterial infection of the female reproductive tract following childbirth or miscarriage. Signs and symptoms usually include a fever greater than 38.0 °C (100.4 °F), chills, lower abdominal pain, and possibly bad-smelling vaginal discharge. It usually occurs after the first 24 hours and within the first ten days following delivery.

The most common infection is that of the uterus and surrounding tissues known as puerperal sepsis

Risk factors

Cesarean section, the presence of certain bacteria such as group B streptococcus in the vagina, premature rupture of membranes, multiple vaginal exams, manual removal of the placenta, and prolonged labour . Most infections involved a number of different types of bacteria.

Other causes of fever following delivery include:

breast engorgement, urinary tract infections, infections of the abdominal incision or episiotomy, and atelectasis(resp. cause)

Due to the risks following C-section it is recommended that all women receive a preventive dose of antibiotics such as ampicillin around the time of surgery. Treatment of established infections is with antibiotics, with most people improving in two to three days. In those with mild disease oral antibiotics may be used otherwise intravenous antibiotics are recommended. In those who are not improving with appropriate treatment other complications such an abscess should be considered.

Signs and symptoms of puerperal sepsis.

Signs and symptoms usually include a fever greater than 38.0 °C (100.4 °F), chills, low abdominal pain, and possibly bad smelling vaginal discharge in addition on examination tender uterus and hot vagina. Examination

•Take the patient's temperature and blood pressure.

•Palpate the uterus to assess size and tenderness.

•Assess any perineal wounds and lochia.

•Examine the breasts.

•Examine the chest for signs of infection.

•Examine the abdomen.

•Examine the legs for possible thromboses.

Investigations

•High vaginal swab.

•Urine culture and microscopy.

•Other swabs as felt necessary - eg, wound swabs, throat swabs.

•FBC.

•Blood culture x 2.

•Ultrasound scan may be required to assist diagnosis of retained products of conception.

•Sputum culture if indicated

Causes of puerperal sepsis:-

After childbirth a woman's genital tract has a large bare surface, which is prone to infection. Infection may be limited to the cavity and wall of her uterus, or it may spread beyond to cause septicaemia , especially when her resistance has been lowered by a long labour or severe bleeding.

Puerperal infection is most common on the raw surface of the interior of the uterus after separation of the placenta (afterbirth); but pathogenic organisms may also affect lacerations of any part of the genital tract. By whatever portal, they can invade the bloodstream and lymph system to cause septicemia, cellulitis (inflammation of connective tissue), and pelvic or generalized peritonitis (inflammation of the abdominal lining). The severity of the illness depends on the virulence of the infecting organism, the resistance of the invaded tissues, and the

general health of the woman. Organisms commonly producing this infection are Streptococcus pyogenes; staphylococci , the anaerobic streptococci, which flourish in devitalized tissues such as may be present after long and injurious labour and unskilled instrumental delivery; Escherichia coli and Clostridium .

Other Causes of puerperal pyrexia:-

urinary tract infection.

pneumonia/atelectasis.

wound infection.

septic pelvic thrombophlebitis.

risk factors for each etiologic condition are listed below:-

atelectasis risk factors include general anesthesia, cigarette smoking, and obstructive lung disease.

urinary tract infections risk factors include multiple catheterization during labor, multiple vaginal examinations during labor, and untreated bacteriuria.

endometritis (the most common cause) risk factors include emergency cesarean section, prolonged membrane rupture, prolonged labor, multiple vaginal examinations during labor and instrumental deliveries.

wound infection risk factors include emergency cesarean section, prolonged membrane rupture, prolonged labor, and multiple vaginal examination during labor.

septic pelvic thrombophlebitis risk factors include emergency cesarean section, prolonged membrane rupture, prolonged labor, and diffuse difficult vaginal childbirth.

mastitis risk factors include nipple trauma from breastfeeding.

Diagnosis of puerperal pyrexia:-

A temperature rise above 38 °C (100.4 °F) maintained over 24 hours or recurring during the period from the end of the first to the end of the 10th day after childbirth or abortion.

Oral temperature of 38 °C (100.4 °F) or more on any two of the first ten days postpartum.

Endometritis is a polymicrobial infection. It frequently includes organisms such as Ureaplasma, Streptococcus, Mycoplasma, and Bacteroides, and may also include organisms such as Gardnerella, Chlamydia, Lactobacillus, Escherichia, and Staphylococcus.

A number of other conditions can cause fevers following delivery including: urinary tract infections, breast engorgement, atelectasis and surgical incisions .

Management

Atelectasis or chest infection need pulmonary exercises , ambulation and antibiotics.

Urinary tract infection : high fever, malaise, lion pain, urinary symptoms and positive urine culture.

Management: antibiotics as per culture sensitivity (cephalosporine).

Endometritis: moderate fever, uterine tenderness, hot vagina with foul smell discharge.

Management: multiple agent IV antibiotics to cover polymicrobial organisms: clindamycin, third generation cephalosporin and metronidazole to cover aerobic and un aerobic . cultures are necessary.

Wound infection: persistent spiking fever despite antibiotics, wound erythema or , wound drainage.

Management: antibiotics for cellulitis, open and drain wound, saline-soaked packing twice a day, and may need secondary closure..

Mastitis: unilateral, localized erythema, edema, tenderness.

Management: antibiotics for cellulitis, open and drain abscess if present.

Prevention

• Attention to hygiene should be used during all examinations and use of instrumentation during and after labour.

•Some centers advocate the use of prophylactic antibiotics during prolonged labour.

•Catheterization should be avoided where possible.

•Perineal wounds should be cleaned and sutured as soon as possible after delivery.

•All blood losses and the completeness of the placenta should be recorded at all deliveries.

•Early mobilization of delivered mothers will help to protect against venous thrombosis.

•New mothers should be helped to acquire the skills required for successful breast-feeding in order to reduce the risk of mastitis.

References:-

Dewhurst text book and Ten teacher obstetrics text book