Sepsis and Infants

Sepsis is the number one killer of children and infants in the world. In newborns and young infants, bacterial infections are almost always the cause of sepsis. Common infections such as e-coli infection, meningitis, pneumonia, Group B Streptococcus (GBS) infection, and salmonella poisoning can all lead to sepsis in infants. Infections can be passed from mother to child during pregnancy, labor, and delivery.

Symptoms.

Sepsis in newborns can produce a variety of symptoms. Often, these babies “just don’t look right” to their caretakers. Symptoms of sepsis in newborns and young babies include:

- Disinterest or difficulty feeding, or vomiting
- Fever (above 100.4°F [38°C] or higher rectally) or sometimes low temperatures
- Irritability or increased crankiness
- Lethargy (not interacting and listless)
- Changes in heart rate—either faster than normal (early sepsis) or significantly slower than usual (late sepsis, usually associated with shock)
- Breathing very quickly or difficulty breathing
- Periods where the baby seems to stop breathing for more than 10 seconds (apnea)
- Change in skin color—becoming pale, patchy and/or blue
- Jaundice (when the skin and eyes look yellow)
- Rash
- Decreased amount of urine
- Bulging or fullness of the spot on top of the baby’s head
Causes.
It Sepsis is caused by infection, most commonly bacterial infections.

Risk Factors.
- Unvaccinated babies and children are the most susceptible to infections, particularly between the ages of 2 months and 36 months when the immune system is not yet developed.
- Infants in pediatric ICU and premature babies receiving neonatal intensive care are also high risk, as the entry point for tubes such as catheters and IV lines can provide a path for bacteria to get inside the baby's body and cause an infection.
- Certain complications in pregnancy, labor, and delivery can result in bacteria entering a baby's body from the mother and increase the risk for sepsis in newborns.

Diagnosis.
A diagnosis of sepsis is made following a physical evaluation and an examination of the patient's medical history. To confirm a sepsis diagnosis, a doctor will order blood tests. Treatment for sepsis must be provided in a hospital setting.

Treatment.
Time is a critical factor for sepsis patients. Sepsis must be treated in a hospital, usually through antibiotics transmitted intravenously. If necessary, babies may also receive IV fluids to keep them hydrated, blood pressure medication to keep their hearts working properly, and respirators to help them breathe.

Laboratory tests play a crucial role in confirming or ruling out sepsis in infants. These include:
- Blood tests (including white blood cell counts and blood cultures) to see whether bacteria are in the blood.
- Additional blood tests to ascertain how certain organs, such as the liver and kidney, are functioning.
- A urine test to check for bacteria.

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Treatment Continued.

- A lumbar puncture (also called a spinal tap), depending on the baby's age and overall appearance; spinal fluid is tested to check for meningitis, an infection of the membranes covering the brain and spinal cord
- X-rays, especially of the chest to check for pneumonia

Prevention.

The likelihood of infants developing sepsis is reduced by:

- Preventing the transmission of GBS bacteria from mother to child during childbirth. Pregnant women can have a simple swab test between the 35th and 37th weeks of pregnancy to determine if they carry the GBS bacteria. If a woman tests positive for GBS, she can receive intravenous (IV) antibiotics during labor
- Providing IV antibiotics during labor to women with a fever, a prematurely ruptured amniotic sac, or with another child with sepsis or an infection such as pneumonia or meningitis
- Vaccinations and immunizations for infants and the adults handling them
- Good hygiene, including regular hand washing
- Caring for cuts and scrapes by washing and covering even minor wounds