Sepsis, Systemic Inflammatory Response Syndrome (SIRS)

Sepsis is a severe illness caused by a massive infection of the bloodstream by toxin-producing *bacteria* (germs). It is caused by an infection that can start anywhere in the body. The most common sites are:

- The kidneys (upper urinary tract infection)
- The liver or the gall bladder
- The bowel (usually seen with *peritonitis*, an inflammation of the membrane that lines the inside of your belly)
- The skin (*cellulitis*)
- The lungs (*bacterial pneumonia*)

Meningitis may also be accompanied by sepsis. In children, sepsis may appear with infection of the bone (*osteomyelitis*). In hospitalized patients, common sites of infection include intravenous lines, surgical wounds, surgical drains, and sites of skin breakdown (bedsores).

DIAGNOSIS

The infection is often found with a blood test. Blood cultures may be *negative* (show no infection) in patients who have been receiving antibiotics. The blood test is a test to show bacteria growing in the blood. The blood pressure also drops in sepsis. This results in shock. Shock causes the organs of the body, including the kidneys, liver, lungs, and central nervous system, to stop working correctly. Sepsis may be life-threatening, especially in people with a weakened immune system or other medical illnesses.

SYMPTOMS

- Fever or low body temperature (*hypothermia*) because the body can no longer control its temperature.
- *Hyperventilation* (fast rate of breathing causing imbalance of carbon dioxide) occurs as the body fights to correct what is wrong.
- Chills
- Shaking
- Warm skin
- Skin rash
- Rapid heart beat (*tachycardia*)
- Confusion or delirium
- Less urine output as the kidneys begin to fail

TREATMENT

- Septic patients usually require very close watching in an intensive care unit (ICU).
- "Broad spectrum" intravenous antibiotic treatments (multiple drugs) are started as soon as sepsis is suspected. The number of medicines that kill germs (*antibiotics*) may be decreased when the results of blood tests become available. That is because when the bacteria is known less medicine is needed.
- The source of the infection should be discovered if possible. This may mean further testing. Sources such as infected intravenous lines or surgical drains should be removed. Sources such as abscesses should be surgically drained.
- Supportive therapy may include:
  - Oxygen.
  - Intravenous fluids.
  - Medications that increase blood pressure.
- Mechanical blood cleaning (*dialysis*) may be needed in the event of kidney failure. Assisted breathing is often required if respiratory failure occurs.

PREVENTION

- Many cases of sepsis are not preventable. Being aware of risks may help early detection.

- **If you have had sepsis previously and you notice signs of this happening again, notify your caregiver immediately or call for local emergency medical help. Do not wait to see if you are going to get better by yourself.**

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