RAMA UNIVERSITY

www.ramauniversity.ac.in

FACULTY OF NURSING

Toxic Shock Syndrome

BY:-

Arpit Kamal

Nursing Tutor

MSN Department

Rama College Of Nursing

Content

- Introduction
- Definition
- Cause
- Pathophysiology
- Sign and symptom
- CDC criteria
- Diagnosis
- Complication
- Nursing management
- Prevention

Introduction

- Toxic shock syndrome is a serious, life threatening illness caused by toxins released by two specific bacteria *Streptococcus pyogenes* or *Staphylococcus aureus*

- It is a medical emergency requiring prompt care

Definition

- Toxic shock syndrome (TSS) is a toxin-mediated acute life-threatening illness, usually precipitated by infection with either Staphylococcus aureus or group A Streptococcus (GAS), also called Streptococcus pyogenes

- Although this disease has been frequently linked to use of tampons in menstruating women, it can affect people of any gender & any age.
- About half of the reported cases have been linked to the use of tampons in menstruating women, while the remaining cases are due to other situations.
- TSS can occur with skin infections, burns & after surgery.

- Toxic shock syndrome affects menstruating women, especially those who use super-absorbent tampons. The body responds with a sharp drop in blood pressure that deprives organs of oxygen and can lead to death.

Cause

- TSS is caused by bacteria of either the *Streptococcus pyogenes* or *Staphylococcus aureus* type.
- Streptococcal toxic shock syndrome (STSS) is sometimes referred to as toxic shock-like syndrome (TSLS)

Pathophysiology

colonization or infection of bacteros

- Production of toxins

- Toxins absorbed systematically

- Production of cell mediator chemicals (cytokines, interleukin1 (IL1) and tumor necrosis factor(TNF)

- Capable of mediating shock and tissue injury and systemic manifestations of TSS

Clinical manifestation

Onset usually sudden with

- High fever (102 ^{o} F or more)
- Watery diarrhea
- Nausea & vomiting
- Low blood pressure
- Widespread skin rash
- Dizziness

- Muscle ache
- Confusion
- Peeling of the skin of palms & soles of feet
- Headache
- Redness of eyes, mouth, throat, vagina, vulva
- Seizures
- Organ failure (usually kidneys, liver)

CDC criteria

- Body temperature > 38.9 °C (102.02 °F)
- Systolic blood pressure < 90 mmHg
- Diffuse macular erythroderma
- Desquamation (especially of the palms and soles) 1–2 weeks after onset

- Involvement of three or more organ systems:
  - Gastrointestinal (vomiting, diarrhea)
  - Muscular: severe myalgia
  - Mucous membrane hyperemia (vaginal, oral, conjunctival)
  - Kidney failure
  - Liver inflammation
  - Low platelet count (platelet count < 100,000 / mm^3)
  - Central nervous system involvement (confusion without any focal neurological findings

- Negative results of:
  - Blood, throat, and CSF cultures for other bacteria (besides *S. aureus*)
  - Negative serology for *Rickettsia* infection, leptospirosis, and measles

DIAGNOSIS

- No specific test can diagnose TSS
- History,
  - difficult to diagnose until characteristic symptoms evolves & source of infection is identified
- Physical examination
- Blood culture
- Culture or throat secretion, vaginal culture
- Blood test RFT (raised urea & creatinine)
- LFT (decreased liver function)

Complication

- Renal failure
- Liver failure
- GI disturbance
- Delusion
- Death

Nursing management

Assessment

- Physical examination
- History
  a. Use of tampons
  b. Recent surgery
  c. Use of contraceptive devices
  d. Past history of TSS
  e. Child birth

Nursing diagnosis

- Altered body temperature r/t infection
- Impaired skin integrity r/t peeling of skin
- Risk for septic shock r/t presence of infection, broken skin
- Risk of fluid volume deficit r/t vomiting and diarrhea
- Anxiety r/t change in health status and threat of death
- Knowledge deficit regarding condition, prognosis, complications, transmission r/t lack of information\

Intervention

- Assess BP, CVP, V/S, early signs &symptoms of shock.
- Assess lab values (LFT, RFT, blood culture)
- Rapid evaluation of condition of patient. Mechanical ventilation if needed .
- Fluid & electrolyte replacement upto 12L /day

- Administer the Antibiotics as prescribed .This may include a combination of cephalosporins, penicillins or vancomycin. The addition of clindamycin or gentamicin reduces toxin production and mortality
- Prepare patient for Hemodialysis if kidney failure occur.
- Examine the vagina for signs of inflammation and rule out common sexually transmitted diseases with similar symptoms

How to prevent toxic shock syndrome?

- Women who have had toxic shock syndrome should avoid using tampons during menstruation as reinfection may occur. The use of diaphragms and vaginal sponges may also increase the risk of toxic shock syndrome.

- Prompt and thorough wound care will help to avoid toxic shock syndrome.

- Women should use sanitary napkin instead of tampons.
- All wounds should be kept clean and bandaged. And monitor for signs of infection.
- Change the tampon every 4to 6 hourly.
- Use the lowest absorbency tampon.
- Hand washing before and after inserting tampon.
- Don’t leave diaphragm or sponge for a long period of time

Thank you