



SNS COLLEGE OF NURSING
Saravanam Patti (po), Coimbatore.



DEPARTMENT OF NURSING

COURSE NAME : B.Sc. (Nursing) III Year.

SUBJECT : MEDICAL SURGICAL NURSING II

UNIT : IV-FEMALE REPRODUCTIVE SYSTEM DISORDERS

AND ITS MANAGEMENT

TOPIC : TOXIC SHOCK SYNDROME



TOXIC SHOCK SYNDROME

Introduction

- Toxic shock syndrome is a serious, life-threatening illness caused by toxins released by two specific types of bacteria, group A *Streptococcus* & *Staphylococcus aureus*.
- It is a medical emergency requiring a prompt care.





DEFINITION

Toxic shock syndrome (TSS) is a toxin mediated acute life threatening illness, usually precipitated by infection with either Staphylococcus aureus , Group A streptococcus; also called streptococcus pyogen.

- 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.



Incidence

- Most cases reported in Western countries still involve menstruating women under age 30. TSS still occurs in about 17 out of every 100,000 menstruating girls and women each year; more than half of these cases are related to tampons. Between 5% and 10% of patients with TSS die.




- In the developing countries, TSS often affects children.
- incidence of nonmenstrual TSS now exceeds menstrual TSS after the hyperabsorbable tampons were removed from the market.
- It can affect children, post menopausal women & men.

Risk factors



- Women who have had TSS as recurrent rate is b/t 30-40%.
- Current Staph. Aureus infection (pneumonia, osteomyelitis, sinusitis, and skin wounds (surgical or burns),
- Women using tampons during their menstruation
- Women using barrier contraceptive devices (diaphragm , sponge)
- Older individuals with underlying medical problems.

- 
- A vertical decorative bar on the left side of the slide, featuring a purple background with white circular patterns and a circular inset at the bottom containing a stylized figure.
- Foreign bodies or packing (such as those use to stop nose bleed)
 - Post operative wound infections (fasciotomy, surgical debridement, laparotomy, amputation, or hysterectomy)
 - Vaginal postpartum infections
 - Menstruation
 - Streptococcal soft-tissue infection (bacterial cellulitis) & Recent influenza infection or chickenpox, Diabetes, alcoholism, surgical procedures ,HIV cancer, NSAIDS

Causes

Menstrual TSS

- caused by Toxic Shock Syndrome Toxin TSST

Nonmenstrual TSS

- caused by either TSST or staphylococcal enterotoxin B & C



Routes of infection

- Vagina.
- Cuts in wound.
- Nose.
- Nose(nasal packing)
- Surgical wounds.
- Skin wounds.

Pathophysiology

Colonization or infection with bacteria



production of toxins



people who lack a protective antitoxin
antibody



Toxins absorbed systemically

Contd....

Production of cell mediator chemicals
{cytokines, such as interleukin 1 (IL-1)
and tumor necrosis factor (TNF)}



capable of mediating shock and tissue
injury & systemic manifestations of TSS

Sign & Symptoms

Onset usually sudden with

- High fever (102 ° F or more)
- Watery diarrhea
- Nausea & vomiting
- Low blood pressure
- Widespread skin rash



- Dizziness
- General ill feeling
- Muscle ache
- Confusion
- Peeling of the skin of palms & soles of feet



Contd...

- Headache
- Redness of eyes, mouth, throat, vagina, vulva
- Seizures
- Organ failure (usually kidneys, liver)



CDC criteria for TSS

- Temp >102° F
- Hypotension (including fainting, dizziness on standing)
- Widespread red rashes
- Shedding of skin (palms, soles 1-2 weeks after the onset of acute illness.)
- Abnormality in 3 or more of following organs
 - ✓ GIT- vomiting or diarrhea
 - ✓ Muscular- severe muscle pain

Contd...

- ✓ Hepatic- decreased liver function
- ✓ Renal- raised urea & creatinine
- ✓ Hematologic- bruising due to low blood platelet count
- ✓ CNS- Disorientation or confusion
- ✓ Mucous memb- red eyes, mouth & vagina due to increased blood flow to these areas

DIAGNOSIS

- No specific test can diagnose TSS
- History, difficult to diagnose until characteristic symptoms evolves & source of infection is identified
- Physical examination (pelvic)



- Blood culture
- Culture or throat secretion, vaginal culture
- Blood test
- RFT (raised urea & creatinine)
- LFT (decreased liver function)



Medical Management

- I/V fluids to stabilize blood pressure
- I/V antibodies to fight source of infection
- For GAS infection- clindamycin (600 mg -900 mg IV 8h)
Or
- combined therapy, in which penicillin G (4 million U IV 8h) is combined with clindamycin.

- For Staphylococcal toxic shock syndrome- Nafcillin or oxacillin (2 g 4h)
- Vancomycin (1gm IV 12 hrly) can be used in penicillin-allergic patients





- Oxygen administration & mechanical ventilation to assist with breathing
- Dialysis if kidney failure develops
- Administration of blood products
- Intravenous immunoglobulins (recommended initial dosage is 2 g/kg, followed by 0.4 g/kg for as long as 5 days.)



Symptomatic management

- vasopressors (eg, dopamine) or vasoconstrictors (eg, norepinephrine) to raise b.p
- Antipyretics to normalize body temperature



Surgical management

- Surgical intervention to drain the source of infection in case of abscess & remove necrotic tissue
- Deep surgical cleaning of an infected wound

Dietary management

- A diet low in sugar, with an increase in the consumption of vegetables and fruit helps to build the immune system.





Nursing management

- 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

Nursing considerations

- Assess BP, CVP, V/S, early signs & symptoms of shock.
- A thorough search for possible sites of streptococcal and staphylococcal infection is a must.
- Assess lab values (LFT, RFT, blood



- Rapid evaluation of condition of patient
- Mechanical ventilation if needed .
- Aggressive fluid & electrolyte replacement upto 12L /day
- Dopamine infusion should be started as prescribed.
- Administer the Antibiotics as prescribed .
- Blood transfusion as prescribed.
- Prepare patient for Hemodialysis if kidney failure occur.

- Continues monitoring the patient
- Discontinuation of tampon usage if one is using.
- Administration of antistaphylococcal antibiotics before and during each menstrual period for several months.
- 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.

Contd...

- 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 4 to 6 hourly.
- Use the lowest absorbency tampon.
- Hand washing before a tampon.
- Don't leave diaphragm or sponge for a long period of time



Contd...

- Seek immediate medical attention if you develop a rash, fever, and feel ill, particularly during menstruation and tampon use or if you have had recent surgery.





ASSESSMENT

1. Define Toxic shock syndrome
2. Explain the etiological factors involved in toxic shock syndrome
3. Enumerate the pathophysiology of Toxic shock syndrome
4. Explain the management of toxic shock syndrome



REFERENCES

Sharma.M.P,Text Book Of Medical surgical Nursing,2nd

Edition,page no:111

Lewis,(2011),Medical surgical nursing,2nd edition,page no:



THANK YOU