

Infectious diseases of newborn

BY

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Introduction

Newborn up to one month of age is particularly susceptible to infection due to their immunologic systems are immature. Infection of newborn is a major and fatal disease .It may occur while the newborn in the hospital or after discharge. It is important for the nurses who work with the neonates, to understand basic infection control principles related to transmission and prevention of infection in the neonates.

I. Infection of newborn acquired during birth

1-Ophthalmia neonatorum or conjunctivitis

Etiology: The causative microorganism is neisseria gonorrhea, or chlamydial microorganism, which acquired during birth through the infected vagina of the mother or by contact with infected amniotic-fluid if rupture of membrane has occurred.

Clinical manifestation: The onset is usually within two or three days after birth.

1. Redness and swelling of the lids.
2. Discharge.

Complications: Corneal ulceration and partial or complete loss of vision.

Treatment and prognosis:

1. Penicillin is the preferred drug.
2. The infant's eye is kept clean by saline solution or boric acid 1%.
3. Chloramphenicol eye drops.

The prognosis: is excellent with **treatment.**

Responsibilities of the nurse:

1. The nurse must be sure that the drops are instilled within the eyelids.
2. The infant's arms must be restrained.
3. If only one eye is affected a shield is placed over the other one to protect it from infection.
4. The purulent discharge is removed by frequent irrigation.

Prevention :

1. The prophylactic measure is to keep the mother free of infection.
2. The infant's eye is kept clean with chloramphenicol eye drops immediately after birth.

2-Oral Moniliasis or oral thrush

Etiology: Causative microorganism is *Candida albicans* which acquired natal, during passage through infected birth canal and postnatal from improper sterilization of nipples or unclean hands or breast of the mother. Also babies who's taking antibiotics may acquires moniliasis.

Clinical manifestation

1. White patches in the mouth when remove from the mucous membrane may lead to bleeding area.
2. Anorexia.
3. Painless.

Complications

1. Esophagitis.
 2. Pneumonia.
 3. Gastritis.
2. at least once daily.

Treatment

1. Mycostatin drops
2. Gentian violet is effective in the treatment of these lesions and applied locally with a soft swab.
3. Dektrin oral gel is also effective.

Nursing care

1. Each infant should have his own feeding equipment.
2. Cleanliness of all feeding articles which enter infant's mouth.
3. Mouth care after feeding.
4. Inspection of the infant's mouth whose receiving antibiotic therapy

II. Infection of newborn acquired after birth

1. Impetigo

Etiology: Staphylococci or streptococci, these microorganisms invade the superficial layer of the skin.

Clinical manifestation: Erythematous papules which ruptures and crusts may develop. These last from one to two weeks.

Complication: Sepsis may occur.

Treatment: It consists in removing epidermis with alcohol sponges and expose to sunlight.

1. Affected area may also be treated by washing with medical soap.
2. Neomycin ointment may be applied locally.
3. Systemic antibiotic may be necessary.

Nursing care: Skin care.

Prognosis: The prognosis is good with antibiotic.

2. Umbilical infection

Etiology: Eshirshia coli or Staphylococci but may be due to other organism.

Clinical pictures:

- Redness and moisture of the stump of the cord.
- In severe cases, characteristically foul odor from the stump.

Complication

1. Septicemia.
2. Tetanus.

Treatment

- Board spectrum antibiotic.
- Culture and sensitivity should be obtained.
- If an abscess forms, incision and drainage should be done.
- The infant should be isolated.

Nursing care:

- Frequent cord care with alcohol
- No bathing until fall down of the cord.
- Observe any redness around the cord-
- Observe any discharge.

3. Tetanus Neonatorum

Etiology: tetanus palladium (clostridium tetanus), an anaerobic, spore-forming, gram negative bacillus

Incubation period: 5 days to several days

Clinical pictures

- The infant is irritable and restless due to toxic effect of CNS.
- The infant cannot move his mouth or suck because of tetanic spasm of the muscles of the jaw, and has great difficulty in swallowing.
- The facial expression is drawn and anxious.
- Stiffness of the neck. Painful muscular contractions or convulsions periodically.
- Temperature 40' c, WBC is 8000 to 12,000.
- Increase CSF pressure.

Treatment

- Tetanus antitoxin and sedative are given.
- Measures to control convulsions.

Nursing care

- DPT immunization for prevention of these infection.
- Secretions in the nasopharynx should be aspirated (suction).
- Oxygen therapy to stimulate respiration.
- Tracheostomy should be ready.
- Gavage feeding.

-Parental fluid.

-Intake and output chart.

Prognosis: Is very poor, mortality rate up to 50% death due to respiratory failure.

Nursing care of the infant with infection

Goal 1: Recognize signs of infection

- Maintain high level of suspicion in infants with vague or nonspecific signs of illness
- Monitor suspicious cases
- Assist with diagnostic procedures and tests

Goal 2: Prevent spread of infection

- Isolate from other infants to prevent spread of infection.
- Persons who have come in contact with infant are investigated to determine a possible source of infection.
- Parents and other visitors are instructed regarding precautions for prevention of infection.
- Carry out meticulous hand washing technique

Goal 3: Maintain nutrition

- Regulate and monitor intravenous infusions.
- Provide oral feeding as appropriate.

Goal 4: Anticipate possible complications

- Observe for signs of shock.
- Observe for side effects or sensitivity to antibiotics.

- Skin infection: Observe for signs of infection to other area or generalized sepsis.
- Sepsis: Observe for signs of meningitis (especially bulging anterior fontanel).

Goal 5: Support parents

- Explain purpose of isolation.
- Teach appropriate isolation precautions.
- Explain tests and therapies.
- Provide opportunity for visiting infant.
- Provide opportunity to express feeling and concerns.

Goal 6: Prevention of the teratogenic disorder

- Apply principles of infection control.
- Provision of adequate prenatal care for the expectant mothers and precautions regarding exposure to teratogenic infections.
- Pregnant personnel are cautioned to avoid contact with the infected infant.