

Diphtheria and Overview

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Abstract

Diphtheriae is an acute disease caused by exotoxin-producing *Corynebacterium*. Globally diphtheria is showing a declining trend due to Childhood Vaccination to door to door in villages and urban areas. Our India is contributed majorly in it and global burden of diphtheria is from India. Diphtheria is a potentially fatal infection mostly caused by toxigenic *Corynebacterium diphtheriae* strains and occasionally by toxigenic *C. ulcerans* and *C. pseudotuberculosis* strains.

Keywords: Exotoxin, Declining, Vaccination.

Introduction

The diphtheria bacillus was discovered and identified by German Bacteriologists Edwin Klebs and Friedrich Löffler and this disease got its official name in 1826 by French physician Pierre Bretonneau. This is because it refers to the leathery, sheath-like membrane that grows on tonsils, throat and in the nose. There are two types of diphtheria: Respiratory and cutaneous. Respiratory causes nose, throat problem, tonsils and cutaneous causes problem in skin. So, basically diphtheria is upper tract respiratory disease.

- In the past its name (general disease, killer disease) because no treatment is present in past and it led to high mortality between the children. It was said that disease killed 80% of the children below 10 years.

- Diphtheria is acute bacterial infection caused by *Corynebacterium diphtheriae*.
- Diphtheria is endemic in India.
- Common below 15 years of age.
- Mostly in winter and autumn seasons.
- Both sexes are equally affected.

Etiology

Causative agent-*Corynebacterium diphtheriae*.

Cultural and biological species:

- Gravis
- intermedius
- mitis

Exotoxin protein with antigenic properties. Two fragments: A-thermostable, biosynthesis inhibition B - thermolabile, adhesion.

Clinical Manifestations

- Incubation period 2 to 5 days.
- Gradual onset, moderate intoxication.
- Moderate pharyngeal pain.
- White pseudo membranes (greyish)
- Local Edema.
- Paresis of soft palate.

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- Affection of myocardium

Sign and symptoms are -

- Fever
- chills
- bluish skin coloration (cyanosis)
- Sore throat @ Hoarseness
- Cough
- Headache Difficulty in swallowing
- Difficulty in breathing
- Foul - smelling
- Bloodstained nasal discharge and lymphadenopathy.

Diagnosis Evaluation

- Sample collection: Throat swab or swab from membrane.
- Microscopy: Gram Stain and albertsstain.
- Culture: Loefflers and PT
- Biochemicals and virulence test in vivo and vitro.

Treatment

Antibiotics

- prevention of further toxin production.
- control local infection
- Reduction of transmission.

Penicillin (1200 mg 6 - hourly i.v.) or amoxicillin

(500 mg 8 - hourly) should be administered for 2 weeks to eliminate C.diphtheria.

Erythromycin orally or by injection (40- 50 mg/kg/day; maximum, 2gm /day) for 14 days.

Nursing Intervention

- Improve thermoregulation.
- Maintain room temperature.
- Advise client to wear thin clothes that absorb sweat easily.
- Encourage to increase oral fluid intake.
- Administer antipyretics as ordered by the physician.
- Improve caloric intake.

Conclusion

Diphtheriae is an acute disease that shouldn't be ,is preventable with immunization. It exists and causes outbreaks wherethere are inadequate public health systems because of poverty, war, displacement of population, natural disasters or neglect

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