



## SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

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# MENINGITIS

## INTRODUCTION

Meningitis is an acute inflammation of the protective membranes covering the brain and spinal cord, known collectively as the meninges.

## ETIOLOGY

Bacterial infections

Group B Streptococci

Escherichia Coli

Listeria Monocytogenesis

Neisseria Meningitidis

Streptococcus Pneumoniae

## Viral infections

Enterovirus (Coxsackie)

Herpes simplex

HIV

Mumps

Varicella Zoster

Lymphocytic choriomeningitis

## PATHOPHYSIOLOGY

Direct spread

Direct spread is due to deformities:

Otitis media

Sinusitis

Skull fracture

Hematogenous spread

Bacteria or virus enters into the CSF through blood stream

In CSF, foreign bodies activate neutrophils and macrophages by triggering immune system

On activation of neutrophils and macrophages, they release cytokine mediators.

Increased release of cytokine mediators cause inflammation of meninges (meningitis).

## **DIAGNOSIS**

Lumbar puncture : L3 and L4

Assessment of CSF through lumbar puncture

Increased intracranial pressure

Increased WBC

Increased proteins

Decreased glucose

Polymerase chain reaction

For HIV, Enterovirus and Tuberculosis.

## **TREATMENT**

Antibiotics: Ampicillin, Gentamicin, Vancomycin, Penicillin G, Ceftriaxone, Cefotaxime.

Anti- viral agents: Acyclovir, Valacyclovir.

Anti- fungals agents: Fluconazole.

Anti- Parasites: Albendazole, Mebendazole.

Vaccine for Neisseria meningitidis.