

Table of Contents



Nextillo

THE WONDER HAS A NAME

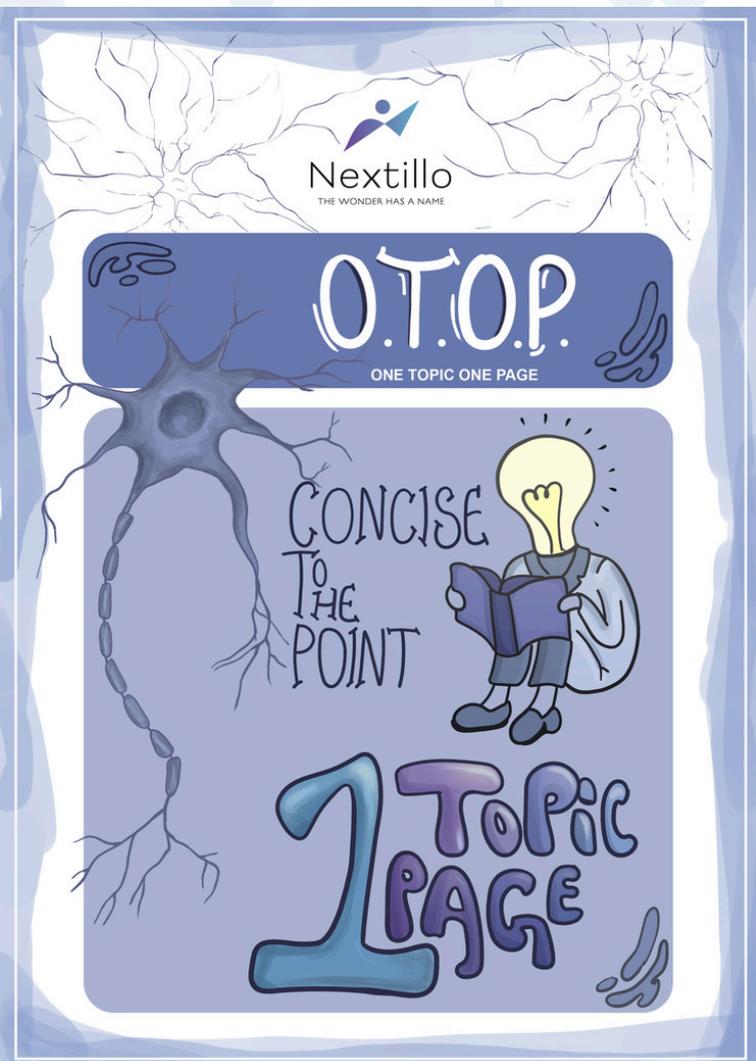
Parainfluenza Virus 1

Hepatitis D 2

Carotid-Cavernous Fistula (CCF) 3

INTERMEDIATE UVEITIS 4

Cystoid Macular edema (CME) 5





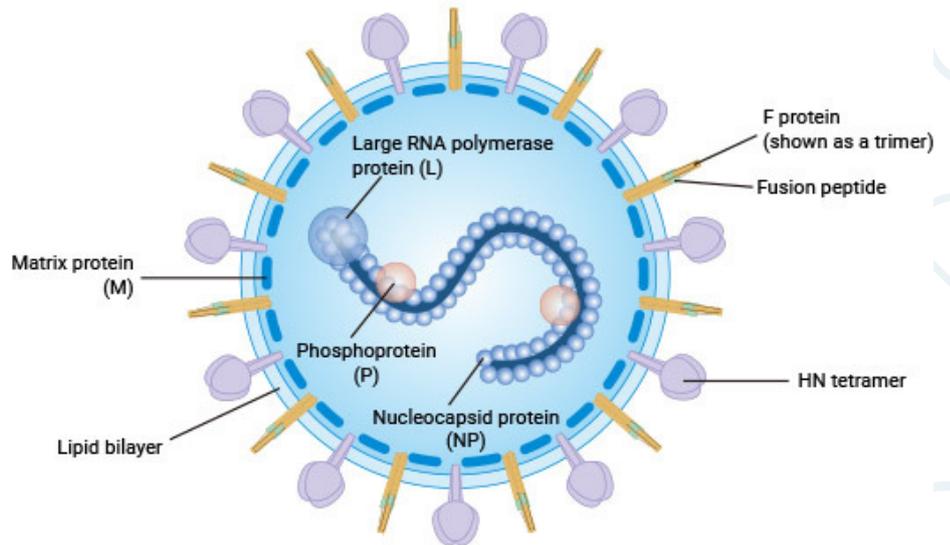
Nextillo

THE WONDER HAS A NAME

#OTOP BY NEXTILLO

ONE TOPIC ONE PAGE BY NEXTILLO

PARAINFLUENZA VIRUS

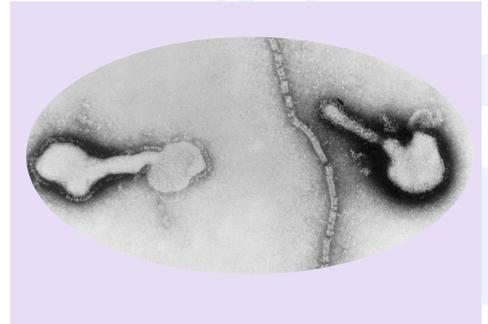
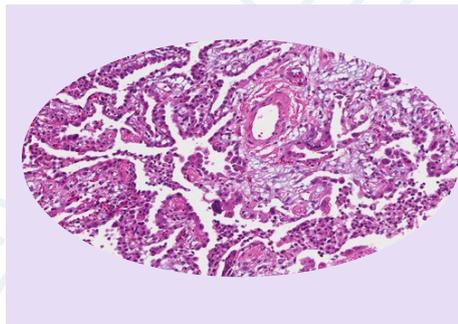


INTRODUCTION

- Parainfluenza viruses (PIVs) belong to the **Paramyxoviridae** family
- It is major cause of **respiratory infections** in children, elderly, and immunocompromised patients.
- They are **enveloped, single-stranded, negative-sense RNA viruses**.

CLASSIFICATION & TYPES

- **HPIV-1 & HPIV-2** → **Croup (laryngotracheobronchitis)** in children.
- **HPIV-3** → **Bronchiolitis, pneumonia**
- **HPIV-4** → Milder upper respiratory infections.



TRANSMISSION & EPIDEMIOLOGY

- **Mode:** Respiratory droplets, direct contact
- **Seasonality:** HPIV-1 & HPIV-2 peak in fall; HPIV-3 occurs year-round.
- **High-risk groups:** Infants, elderly, immunocompromised patients.

TREATMENT

- **Supportive care:** Hydration, oxygen therapy, nebulized epinephrine (for severe croup), corticosteroids.
- No antiviral treatment available.

PATHOGENESIS

- Infects **epithelial cells of the respiratory tract** → inflammation, mucus secretion, airway obstruction.
- **Croup (HPIV-1, 2):** Subglottic edema → barking cough, stridor
- **Pneumonia/Bronchiolitis (HPIV-3):** Alveolar inflammation, necrosis of respiratory epithelium.

PREVENTION & CONTROL

- No vaccine available.
- Hand hygiene, avoiding close contact with infected individuals.

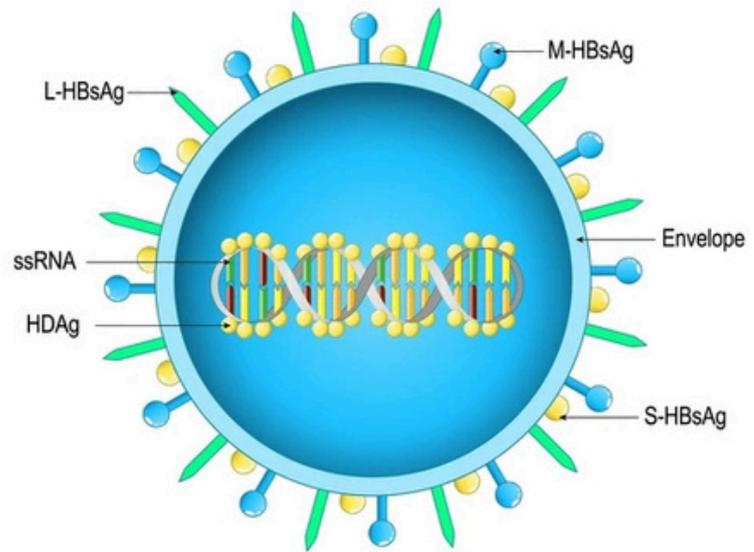
CLINICAL FEATURES

- Upper Respiratory Tract Infections (URTI)
 - Mild **cold-like symptoms:** Rhinorrhea, sore throat, cough, fever.
- Lower Respiratory Tract Infections (LRTI)
 - **Croup (HPIV-1, 2):** Barking cough, inspiratory stridor, hoarseness.
 - **Bronchiolitis/Pneumonia (HPIV-3):** Wheezing, dyspnea, fever.

DIAGNOSIS

- Clinical diagnosis (Croup): "Steeple sign" on X-ray (subglottic narrowing).
- Lab tests: RT-PCR (gold standard), viral culture, immunofluorescence.

HEPATITIS D

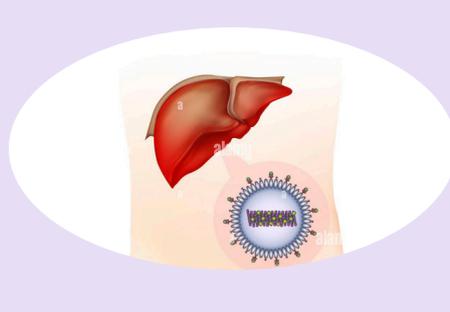
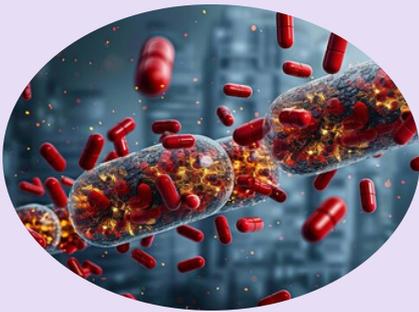


INTRODUCTION

- Hepatitis D virus (HDV) is a defective RNA virus that requires **Hepatitis B virus (HBV)** for replication.
- It causes the most severe form of viral hepatitis.

VIROLOGY

- **Enveloped, circular, single-stranded RNA virus**
- Dependent on **HBsAg (Hepatitis B surface antigen)** for entry and assembly.



EPIDEMIOLOGY

- Endemic in **Middle East, Africa, Amazon Basin, and parts of Asia**
- Transmitted via **blood, sexual contact, and perinatal routes**
- High risk: **IV drug users, MSM, HBV carriers**

CLINICAL FEATURES

- Acute HDV: **Jaundice, fatigue, nausea, RUQ pain, hepatomegaly**
- Chronic HDV: **Rapid cirrhosis, hepatic decompensation, hepatocellular carcinoma (HCC)**

TYPES OF HDV INFECTION

- **Co-infection** (HBV + HDV simultaneously)
 - Acute severe hepatitis
 - Low risk of chronicity (1-5%)
- **Superinfection** (HDV in an HBV carrier)
 - More severe disease, rapid progression to cirrhosis
 - High risk of chronicity (80-90%)

DIAGNOSIS

- **Serology**
 - **Anti-HDV IgM** (Acute infection)
 - **Anti-HDV IgG** (Chronic infection)
- **HDV RNA (RT-PCR)** – Confirms active infection
- **HBsAg must be positive** (HDV cannot exist without HBV)

MANAGEMENT

- No specific antiviral treatment; **Pegylated IFN- α** for chronic HDV
- **HBV vaccination** prevents HDV
- Liver transplant for end-stage liver disease



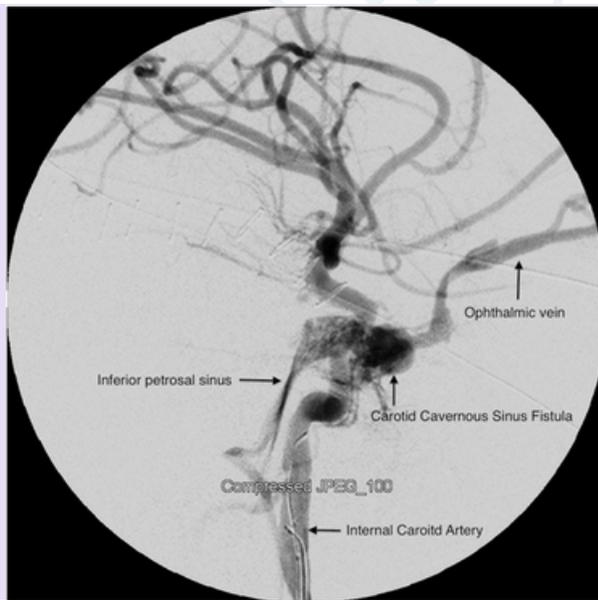
Nextillo

THE WONDER HAS A NAME

#OTOP BY NEXTILLO

ONE TOPIC ONE PAGE BY NEXTILLO

CAROTID-CAVERNOUS FISTULA (CCF)

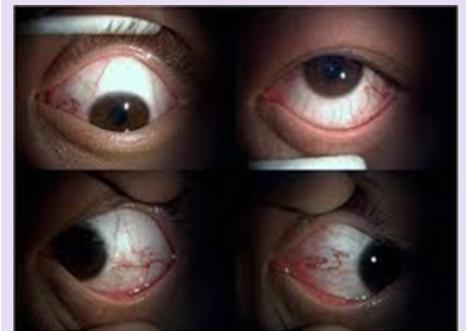
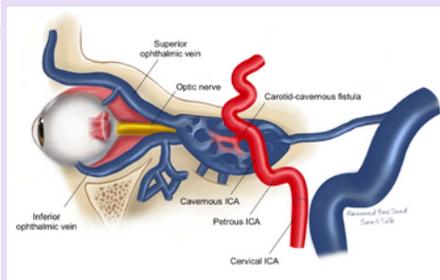
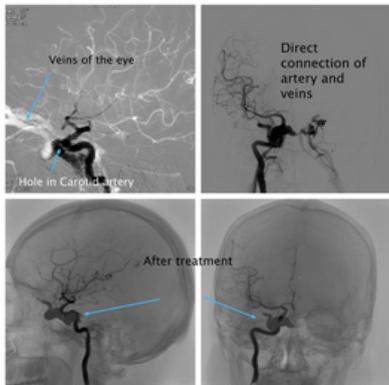


INTRODUCTION

- A **carotid-cavernous fistula (CCF)** is an abnormal connection between the **carotid artery** and the **cavernous sinus**, a large venous cavity at the base of the skull. This condition is usually acquired and can arise from trauma, surgery, or spontaneously. There are two main types of CCF

HIGH-FLOW FISTULA

- **Triad:** Proptosis, chemosis, and bruit.
- **Cause:** Typically caused by trauma or iatrogenic factors.
- **Symptoms:** Pain, Chemosis, Congestion, Bruxism, Ophthalmoplegia, Headaches, and Pulsatile tinnitus



LOW-FLOW FISTULA

- **Cause:** Develops spontaneously, especially in elderly women, during pregnancy, or in those with hyperplastic tissues.
- **Symptoms:** More gradual onset and less severe symptoms compared to high-flow fistulas.
- The presence of conjunctival congestion and chemosis is distinctive for CCF.

INVESTIGATIONS

- Selective carotid angiography: **Gold standard**
- Magnetic Resonance Angiography

TREATMENT

- The preferred treatment for CCF is **endovascular therapy**. A balloon or coil can be used to occlude the fistula without sacrificing the carotid artery.



Nextillo

THE WONDER HAS A NAME

#OTOP BY NEXTILLO

ONE TOPIC ONE PAGE BY NEXTILLO

INTERMEDIATE UVEITIS

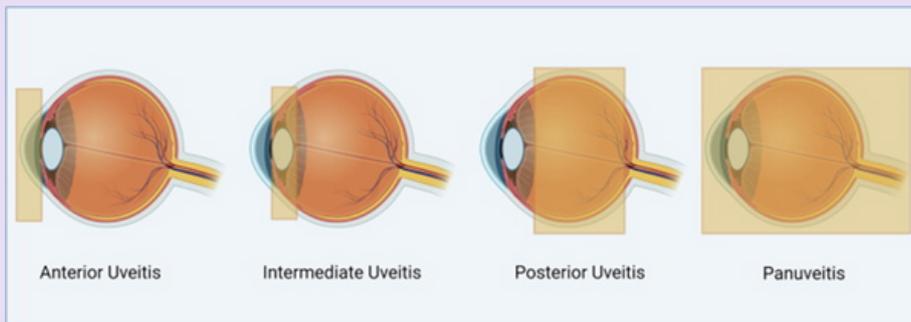


INTRODUCTION

- **Definition:** Inflammation of the middle part of the eye (pars plana, peripheral retina, vitreous, and choroid).

SYMPTOMS

- Floaters
- Blurry Vision
- No Pain or Redness



ETIOLOGY

- **Idiopathic:** 85% of cases have no known cause, though genetics (like HLA-DR2) might play a role.
- **Known Causes:** 15% of cases are due to conditions like:
 - Tuberculosis
 - Syphilis
 - Sarcoidosis
 - Lyme Disease
 - Multiple Sclerosis

TREATMENT

- **Intravitreal steroids** (e.g., triamcinolone)
- **Immunosuppressive Medications**
- **Cryotherapy or Laser**
- **Vitrectomy**

INVESTIGATIONS

- **Ocular Tests**
 - **USG scan:** To check for vitreous changes.
 - **FFA (Fluorescein Angiography):** Helps detect cystoid macular edema (CME).
- **Systemic Tests**
 - **Blood Tests:** Including hemogram, liver and kidney function tests, and blood glucose.
 - **X-ray:** Chest or spine x-ray to look for underlying causes.
 - **HIV, VDRL (for syphilis), CT of brain and spine** may be done for systemic assessment.

SIGN

- **Anterior Segment**
 - Usually quiet, with mild signs like low-grade flare and cells.
 - Few **keratic precipitates (KPs)** can be present.
- **Posterior Segment:**
 - **Snowball or Cotton-Ball Opacities:** Inflammatory material floating in the vitreous, known as **Ant's eggs**.
 - **Snow Banking:** Inflammatory plaque or membrane at the retina's edge (pars plana), a key feature of intermediate uveitis.



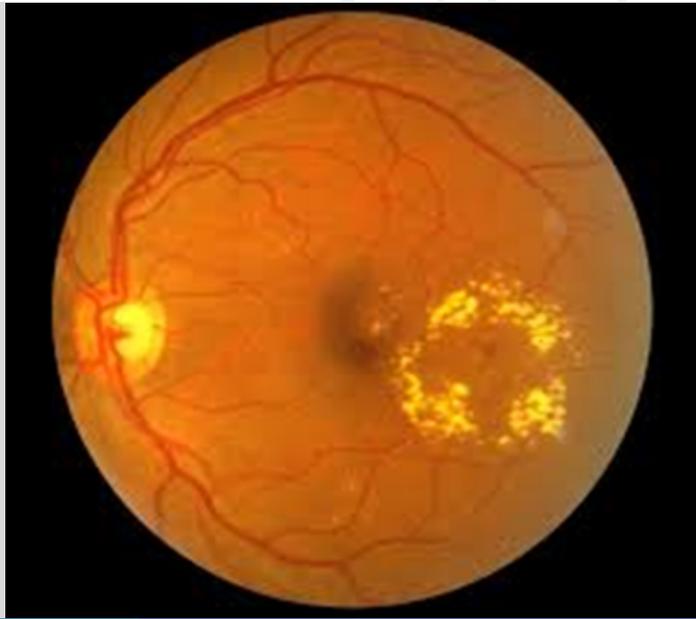
Nextillo

THE WONDER HAS A NAME

#OTOP BY NEXTILLO

ONE TOPIC ONE PAGE BY NEXTILLO

CYSTOID MACULAR EDEMA (CME)

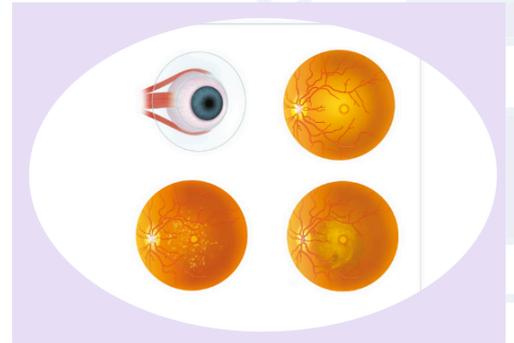
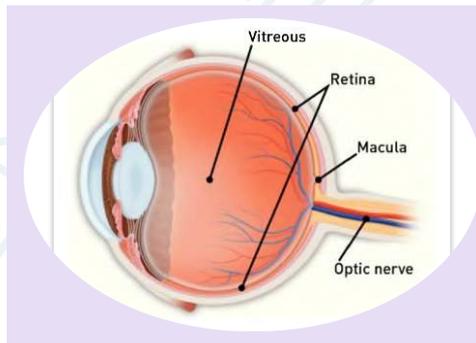


INTRODUCTION

- **Definition:** CME is the buildup of fluid in the retina, forming cyst-like spaces, mainly around the fovea (central part of the retina).

PATHOGENESIS

- CME happens when fluid leaks from retinal capillaries due to a breakdown of the blood-retinal barrier, leading to fluid buildup and cystic changes in the retina.



CAUSES

- **Surgery & Laser Therapy:** Post-cataract surgery, retinal surgery, or laser treatments (e.g., panretinal photocoagulation).
- **Retinal Vascular Disorders:** Diabetic retinopathy, central retinal vein occlusion (CRVO), branch retinal vein occlusion (BRVO).
- **Uveitis:** Both posterior and anterior uveitis can cause CME.
- **Retinal Dystrophies:** Conditions like retinitis pigmentosa.
- **Vitreomacular Traction:** Seen in macular epiretinal membranes (ERM).
- **Systemic Diseases:** Includes conditions like leukemia, chronic kidney disease, and multiple myeloma.

SYMPTOMS & SIGNS

- **Visual Loss:** Starts mild but can worsen and lead to permanent vision loss if untreated.
- **Fundus Exam:** A yellow spot at the fovea and retinal thickening may be seen. In advanced cases, a "honeycomb" appearance appears from multiple cysts.
- **FFA (Fundus Fluorescein Angiography):** Shows leakage in the macula, often showing a "flower petal" pattern in advanced stages.

TREATMENT

- **Treat the underlying cause:** Anti-VEGF injections for diabetic macular oedema or stopping causative medications.
- **Topical NSAIDs:** Medications like ketorolac and diclofenac help prevent or treat CME, especially after eye surgery.
- **Steroids:** Topical or systemic steroids can treat established CME.