



WELCOME

To day's topic is-

RHINITIS/RHINISINUSITIS





Rhinitis

Acute rhinitis

Acute inflammation of the nasal mucosa is called acute rhinitis.

It is a common infection prevalent in all ages.

Particularly in children.





Acute rhinitis

Aetiology- primarily a viral infection
Followed by secondary infection
with bacteria.

Viruses are- Influenza viruses, adeno virus,
Reo virus, Echovirus and
rhinovirus.





Acute rhinitis

clinical features:

- ✓ Irritation in the nose.
- ✓ Burning sensation followed by sneezing, watery nasal discharge and obstruction.
- ✓ Fever, malaise and generalized aches and pains.
- ✓ Within a day or two, the nasal secretion become mucopurulent. Symptoms of toxemia are marked.
- ✓ After 5 to 10 days resolution takes place and recovery sets in.





Acute rhinitis

Complications:

- Naso pharyngitis
- Pharyngitis
- Sinusitis
- Acute otitis media.
- Tonsillitis
- Laryngitis
- Laryngo tracheobronchitis
- Bronchitis
- Pneumonia





Treatment

No specific treatment is required.

- ✓ General measures are- bed rest, analgesics, antipyretics for fever & pain.
- ✓ Nasal decongestants
- ✓ Antihistaminic
- ✓ Steam or menthol vapor- soothing effect on the nasal mucosa.
- ✓ Antibiotics – to control secondary infection.
- ✓ Vitamin c supplements.





Nasal diphtheria

- **Coryne bacterium diphtheria** may invade the nasal mucosa and produce a picture of acute or chronic rhinitis.
- The disease may be primary or secondary to faucial diphtheria.
- In acute form of rhinitis, there occur general toxemia, fever and catarrhal symptoms.





N diphtheria

Complications are less common with nasal diphtheria probably due to less absorption of toxin from a membrane on the columnar epithelium.

In chronic form it manifests as fibrinous rhinitis and occurs extensive necrosis of the epithelium with formation of a grayish- white membrane which is adherent to the underlying mucosa and bleeds on its removal.





Nasal diphtheria

Symptoms-

- **Local symptoms** includes nasal obstruction and nasal discharge which may be blood- stain and muco purulent.
- The anterior nares may show excoriation.
- **Constitutional symptoms** such as fever, malaise etc. are rare.
- **On exam.-** whitish or greyish-white membrane on the septum & turbinates which is difficult to remove and leaves behind bleeding area.





Diphtheria

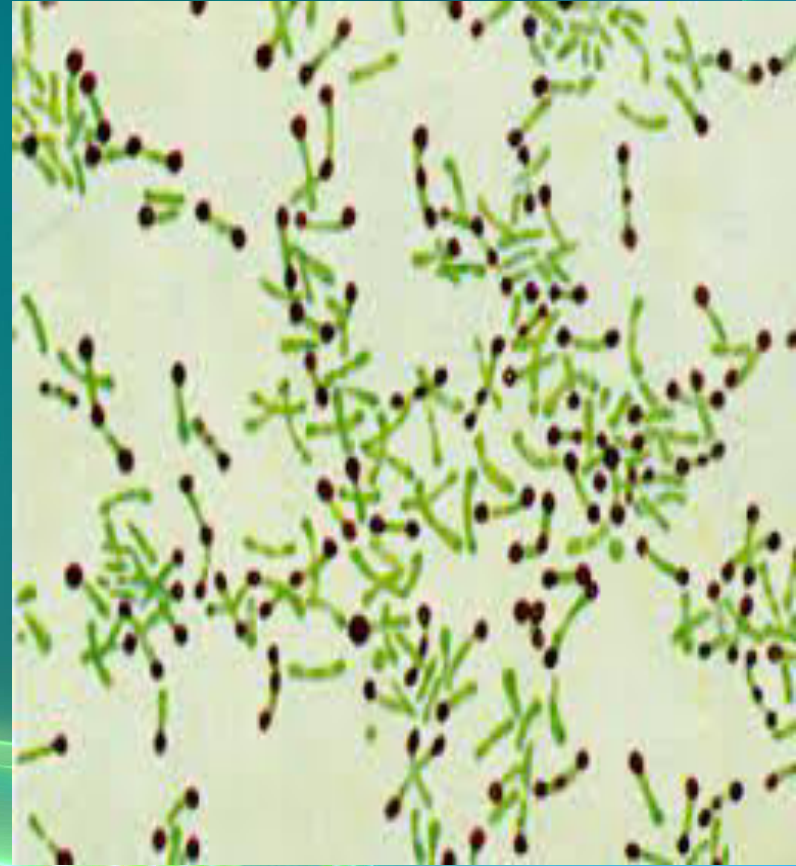




Nasal diphtheria

Investigation:

- ✓ Nasal swab for KLB
- ✓ Throat should be looked for any evidence of faucial or pharyngeal involvement.





Nasal diphtheria

Treatment:

- ✓ Patient should be isolated.
- ✓ Full dose of anti-diphtheric serum should be given.
- ✓ Inj. C. penicillin 5 lacks I.V. 6 hourly.
- ✓ Antibiotics should be continued till three consecutive swabs are negative.





Other causes of rhinorrhea.

- ✓ Acute rhinitis & chronic rhinitis
- ✓ Vasomotor rhinitis
- ✓ Allergic rhinitis
- ✓ Rhinoscleroma
- ✓ Choanal atresia
- ✓ Malignant granulomas
- ✓ Acute & chronic sinusitis
- ✓ Rhinitis medicamentosa
- ✓ C S F rhinorrhea
- ✓ Atrophic rhinitis
- ✓ Syphilis, leprosy, tuberculosis, fungal infections.
- ✓ Foreign body
- ✓ Tumors of the nose and paranasal sinuses
- ✓ Furunculosis.





Chronic Rhinitis

Chronic inflammation of the nasal mucosa may occur in various nonspecific and specific infections





Chronic Rhinitis

I) Non specific infections-

- Chronic hypertrophic rhinitis.
- Atrophic rhinitis.
- Rhinitis caseosa (nasal cholesteatoma)
- Rhinitis sicca.
- Allergic rhinitis, vasomotor rhinitis.
- Midline granuloma.





Chronic Rhinitis (cont.)

ii) Specific infections-

- Tuberculosis of nose.
- Syphilitic rhinitis.
- Lupus vulgaris of nose.
- Leprosy of nose.
- Rhinosporodiosis.
- Rhinoscleroma .





ATROPHI RHINITIS (Ozaena)

Chronic inflammatory condition of the nose characterized by atrophic changes of the mucosa of the nose and the turbinates due to periarterial fibrinosis and endarteritis.

It is called ozena when associated with fetor.





ATROPHI RHINITIS

Types :

- ✓ Primary atrophic rhinitis.
- ✓ Secondary atrophic rhinitis.

Primary atrophic rhinitis:

- Is common in young adolescent females of poor socioeconomic status.





ATROPHI RHINITIS

Aetiology: Exact aetiology is not known.

Various theories are-

- **Infective theory-** organism like *Coccobacillus foetidus ozaenae*, *Klebsiella ozaenae*, diphtheroids are responsible.
- **Endocrine theory-** common in females at puberty. Endocrine imbalance play in its causation.





ATROPHI RHINITIS

- Deficient diet theory- deficiency of iron and fat soluble vitamins especially A and D, results in atrophic changes.
- Developmental factors- wide breadth of the nasal cavities and small antra have been in the nose.





Secondary atrophic rhinitis:

Atrophic changes in the nose occur as a result of underlying nasal disease like

- ✓ Chronic sinusitis.
- ✓ Tuberculosis
- ✓ Lupus
- ✓ Syphilis
- ✓ Leprosy
- ✓ Result of extensive tissue destruction from surgery or accident.





Pathology

- As a result of chronic inflammatory changes, the ciliated columnar epithelium of the nasal cavity and turbinates atrophies and shows squamous metaplasia.
- Glands and goblet cells become fewer.
- The endarteritis of blood vessels causes diminished blood supply to the mucosa.





Pathology (cont.)

- The bone of the turbinates also shows atrophic changes.
- As a result of the loss of ciliated epithelium, thick viscid secretions of the nose get stagnated and result in secondary infection and crust formation.
- The fetor and loss of mucosal sensation attracts flies which lay eggs that hatch out into larvae and pupae called maggots.





clinical features:

- More common in females.
- Usually bilateral but may be unilateral also.
- Most characteristic symptom is the foul odour detected by others. Patient himself or herself is anosmic.
- Dryness of nose, feeling of nasal obstruction, discharge of greenish crusts, headache and epistaxis are sometime the main complaints .
- Sometimes fetor is a very marked feature noted by the examiner.





Clinical features (cont.)

- **Sings** – the nasal cavities are filled up with greenish crusts.
 - the mucosa looks congested and atrophic.
 - turbinates look atrophic and shriveled up.
 - the nasal cavities are more roomy.
 - Sometimes even the nasopharynx may be visible on anterior rhinoscopy.
 - posterior rhinoscopy shows similar drying of mucosa with crusts.





Investigations :

- X-ray PNS OM view.
- C T scan
- Haematological tests
- Serological tests.





Management :

conservative treatment-

- ✓ Alkaline douching of the nose.
- ✓ 25% glucose in glycerine used locally in the nose.
- ✓ Local application of estrogen to the nasal mucosa.
- ✓ Injection of placental extract weekly in the turbinates.
- ✓ Iron and vitamins supplement.





Surgical treatment:

- **Young's operation**- partial or complete closure of the nostrils for six months to few years. (the closure gives rest to the nose and thus sets up conditions for epithelial regeneration)
- **Transplantation of the Stenson's duct**- into the maxillary sinus for the moisture of nasal mucosa.
- **Stellate ganglion block** -to relieve autonomic dysfunction.
- **Implantation of pieces of placenta**- into nasal submucosa.





Rhinosporidiosis

- ❑ Rhinosporidiosis is a fungal infection caused by *Rhinosporidium Seeberi*.
- ❑ It principally affects the nasal mucosa but can occur in other areas like the nasopharynx, pharynx, bronchi, skin, conjunctiva, genitals etc.
- ❑ The mode of infection is dust from the dung of infected cattle.
- ❑ The disease is common in India, Sri Lanka, South America and Africa.





Rhinosporidiosis

Clinically characterized by formation of bleeding papillomatous and polypoidal lesions arising from the septum or the nasal vestibule which have a strawberry appearance.





Rhinosporidiosis

Clinical features:

- ❖ Common in males between the age of 11- 40 years.
- ❖ Main symptoms are nasal obstruction, epistaxis and itching.
- ❖ The lesion presents as polypoidal mass in the nasal cavity-pink or reddish in colour, granular surface, bleeds on touch and surface is studded with minute white dots (sporangia) and has a strawberry like appearance.

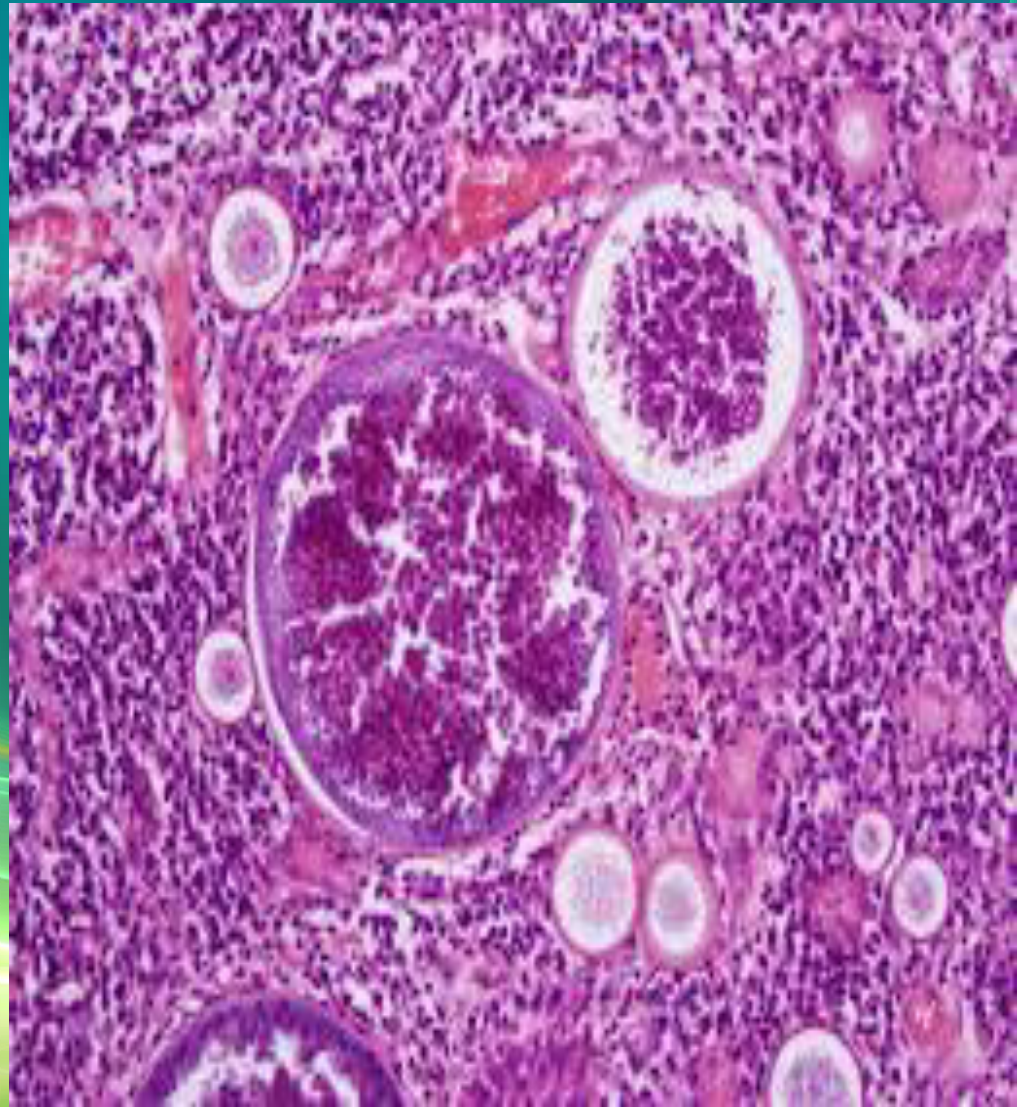




Diagnosis

Diagnosis :

By biopsy and histopathology which shows sporangia containing spores in Sub epithelial tissues.





Rhinosporidiosis





Extra nasal sites





Rhinosporidiosis

Treatment

- ❖ Complete and wide excision and cauterization of the base.
- ❖ In recurrence cases- after thorough clearance of the mass & cauterisation of the operated area, antileprotic drugs (DAPSONE) or Amphotericin-B may be used in post operative follow up for a prolonged period.





Midline nasal granulomas:

Types-

- Stewart's granuloma.
- Wegener's granuloma.





Midline nasal granulomas





Midline nasal granulomas:

Stewart's granuloma

(Malignant nasal lymphoma)

- Characterized by apparent chronic inflammatory granulation tissue in the nose with rather rapid destruction of the nose and mid facial region with little systemic disturbance.
- No evidence of pulmonary or nasal involvement
- Microscopy of the lesion shows necrosis with atypical cellular exudates.





Stewart's granuloma.

Treatment :

- ❖ Full dose radiotherapy to the mid facial region and regional lymph nodes.
- ❖ Surgical debridement and reconstruction can be undertaken to minimize the deformity.
- ❖ Steroids and cytotoxic drugs have no role in the treatment.





Wegener's granuloma:

- ✓ The disease is of unknown etiology, currently thought to be an autoimmune disease.
- ✓ The mechanism is probably based on delayed hypersensitivity.
- ✓ Characterized by necrotizing granulomatous lesions of the upper respiratory tract.
- ✓ Besides lesions in the upper respiratory tract, the Wegener's type is characterized by generalized vasculitis and focal glomerulitis.





Wegener's granuloma:

- Clinical picture is insidious onset of nonspecific upper respiratory infection.
- Patient complains of fever, malaise and blood- stained nasal discharge. Granulomatous lesions may be seen in the nose.
- Urine analysis shows red cells, casts and proteinuria.ESR is raised and serum proteins show increase in gamma globulins.
- Biopsy from the nose or even renal biopsy may be needed for confirming the diagnosis. Histological picture reveals giant cell granuloma and features of vasculitis.





Wegener's granuloma:

Treatment-

- Steroids and immunosuppressive drugs like Azathioprine, cyclophosphamide.
- Frequent nasal irrigations and glucose-in-glycerin drops for prevention of crusting.





Thank you

All

