

# ***RHINITIS***

*by*

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## **Classification**

### **A. Acute rhinitis**

#### **1. Non-allergic:**

##### **a. Infective:**

**i. Viral:** Common cold (coryza or flu).

**ii. Bacterial:** Usually occurs as a secondary infection.

##### **b. Non-infective:**

Vasomotor rhinitis.

chemical irritation.

#### **2. Allergic** e.g. Hay fever.

## Classification

### **B. Chronic rhinitis:**

1. **Non-allergic:** rhinitis.
2. **Allergic:** Perennial allergic rhinitis.

#### **a. Non-specific:**

- i. Chronic hypertrophic rhinitis.
- ii. Chronic atrophic rhinitis.
- iii. Rhinitis medicamentosa (drug-induced rhinitis).

#### **b. Specific:**

- i. Scleroma, Syphilis, tuberculosis, lupus and, leprosy.

## Common Cold (Coryza)

The commonest cause of nasal obstruction.

### **Incidence**

Common cold is more common in crowded poorly ventilated areas, in children and, during winter.

### **Etiology**

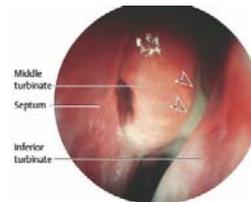
Common cold is attributed to one of a multitude of **rhinoviruses**

## Clinical picture

### incubation period of 1-3 days

- 1. Prodromal stage (ischemic stage or stage of invasion):** *This lasts for few hours and is characterized by sneezing, burning sensation in the nasopharynx, nasal obstruction, and headache.*
- 2. Hyperemic stage (stage of secretion):** *This lasts for few days and is characterized by low grade fever, malaise, arthralgia, nasal obstruction, and profuse watery rhinorrhea.*
- 3. Resolution stage:** *gradual improvement of symptoms within 7-10 days.*

Symptoms lasting beyond 7 days, or worsening instead of improving suggest that *secondary bacterial infection is being established.*



## Complications

1. Acute sinusitis.
2. Acute otitis media.
3. Chest infection.

## Treatment

- As the condition is self-limited
- supportive treatment is required.
- This may include bed rest, analgesics, nasal decongestants (local i.e. drops and systemic), and occasionally steam inhalations.
- Antibiotics should be reserved for treatment of secondary bacterial infections

## Chronic Hypertrophic Rhinitis

### Definition

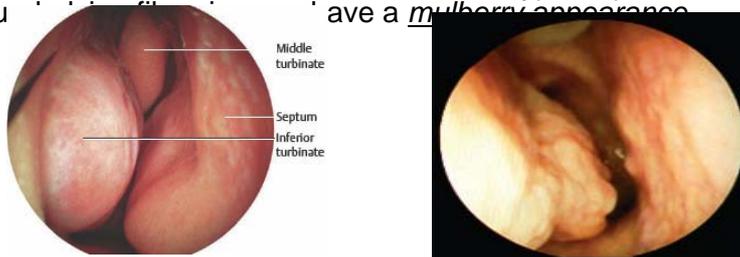
- Characterized by mucosal congestion and edema and swelling or hypertrophy of the inferior turbinates.
- In the early stage the pathological changes are reversible. Later on fibrosis starts in the submucosa and the pathological changes are not reversible.

### **A. Symptoms:**

1. Nasal obstruction: It is usually bilateral or alternating between the two sides. On change of posture, the dependent side becomes blocked due to gravitational swelling of the turbinates.
2. Mucoïd nasal and post nasal discharge.
3. Disturbance in smell .

### **B. Signs:**

1. In the early stages the inferior turbinates are swollen and congested.
2. Later on the inferior turbinates become hypertrophied with a mulberry appearance.



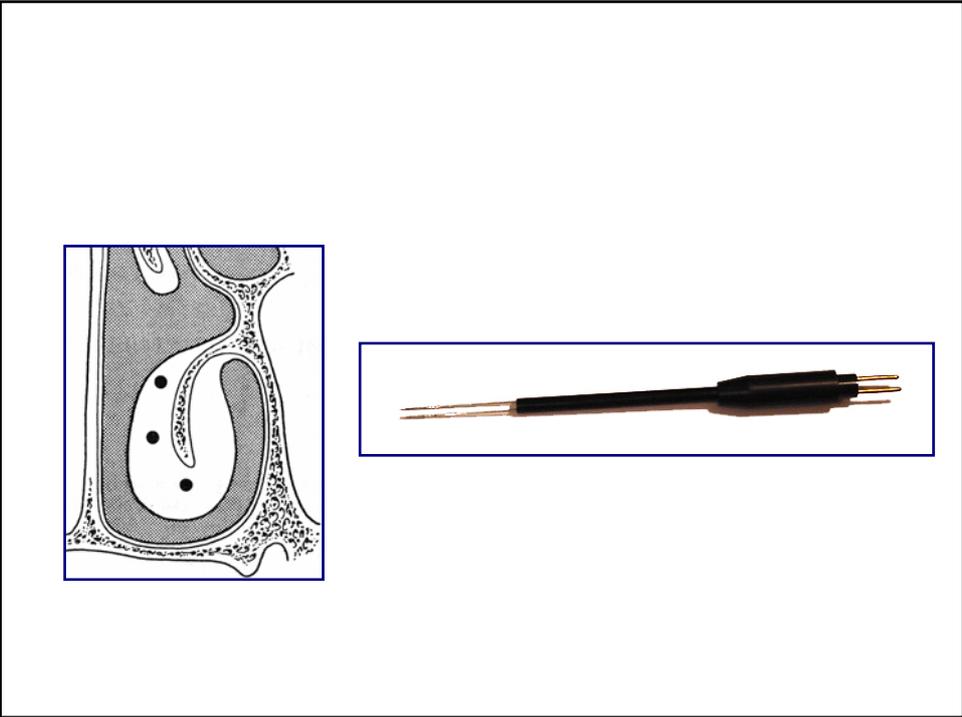
## Treatment:

### **A. Conservative treatment:**

1. Avoidance of a possible precipitating factor e.g. smoke and dust.
2. Saline nasal douches.
3. Topical steroid
4. Vasoconstrictor nasal drops

### **B. Surgical treatment:**

Surgical reduction: Submucous diathermy, Partial inferior turbinectomy. Submucous resection of the bone of the inferior turbinate (turbinoplasty). Laser turbinoplasty.

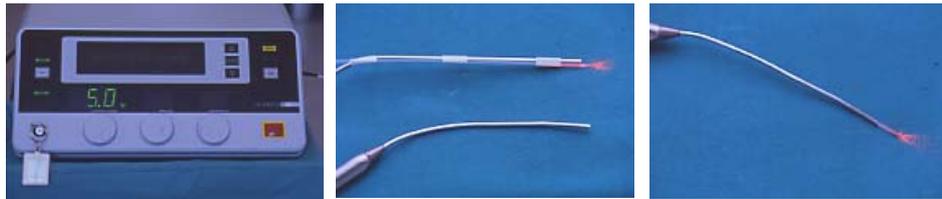


**Radiofrequency**



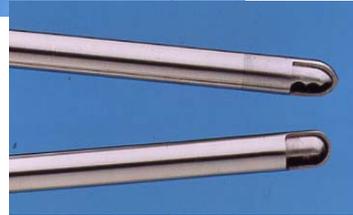
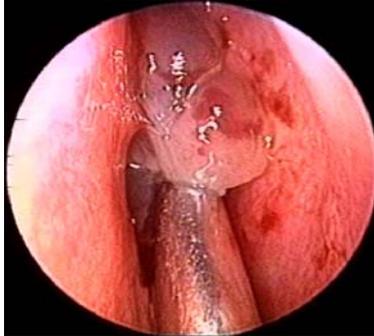
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## DIODE LASER

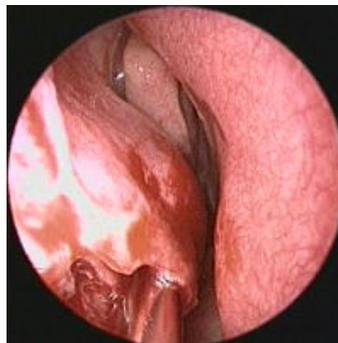


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**POLYPOSIS (Stage I-IV)**



**Debrider**



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# Chronic Atrophic Rhinitis

## Definition

characterized by atrophy of its epithelium and glands due to endarteritis and periarterial fibrosis.

## Primary Atrophic Rhinitis (Ozena)

### Definition

characterized by atrophy of the nasal mucosa, increased nasal Patency, offensive odor crust formation, and anosmia.

### Incidence

The disease is more common in females around the age of puberty.

# Etiology

unknown and various theories (hormonal, infective( *bacillus ozaenae*)

## Clinical picture

1. Anosmia
2. Nasal obstruction: i. Accumulation of crusts.ii. Misdirection of air currents .iii. Inability to sense the airflow.
3. Epistaxis due to separation of crusts.
4. Anterior rhinoscopy shows :
  - i. Roomy nasal cavities.
  - ii. Yellowish or greenish crusts.
  - iii. Pale atrophic mucosa and inferior turbinates.



## **Treatment**

1. saline washes
2. Lubricant drops e.g. paraffin drops and 25% glucose in glycerin
3. Surgical treatment is also of limited value.
  - i. Submucosal implantation of inert materials to narrow the roomy nasal cavities.
  - ii. Temporary closure of the nostrils.

## **Secondary Atrophic Rhinitis**

Secondary atrophy of the nasal mucosa may develop due to:

1. Excessive surgical resection of the inferior turbinates.
2. Radiotherapy of the head.
3. Marked deviation of the nasal septum (on the roomy side).
4. Granulomata e.g. Scleroma.

[empty nose.avi](#)  
[empty nose.avi](#)

## Scleroma

### Definition

Chronic specific inflammation of the upper respiratory tract caused by *bacillus or Klebsiella rhinoscleromatis*

### Incidence

Scleroma is present sporadically all over the world and is endemic in Egypt, Eastern Europe, Russia, and Central and South America (*scleroma belt*). *It more*

common in adults and has a higher incidence among low socio-economic classes.

# Pathology

1. In the active **granulomatous stage** the characteristic cellular infiltration MCJ of the vestibule of the noses and the respiratory nasal mucosa.

The submucosa appears infiltrated by lymphocytes, plasma cells as well as two characteristic components:

- i. **Mickulicz cells** which are derived from histiocytes and appear as large vacuolated foam cells containing the scleroma bacilli.
  - ii. **Russell bodies** which are eosin-staining degenerated plasma cells. Electron microscopy showed a third type of cells called **Mott cells**, thought to be the precursors of Russell bodies.
2. In the **fibrotic stage** the cellular infiltration is gradually replaced by fibroblasts and dense fibrous tissue giving the lesions its characteristic hardness. Contraction of the fibrous tissue may lead to narrowing or complete obliteration of the nasal cavity as well as external deformities.
  3. **Atrophic Stage** of the epithelium and sero-mucinous glands.

## Clinical picture

1. *Granulomatous type*: firm pale pink granulomatous masses starting near the mucocutaneous junction of the nose and spreading posteriorly may extend to the external nose and upper lip (Hebra nose).
2. *Fibrotic type*: The nasal cavities are narrowed or may be obliterated by fibrous stenosis and adhesions
3. *Atrophic type*: roomy and contains crusts.



1. The pharynx (*pharyngoscleroma*)
2. The larynx (*laryngoscleroma*), *trachea, and bronchi: Laryngoscleroma*
3. The lacrimal sac (*dacryo scleroma*).
4. The middle ear (*tympano scleroma*).

## **Treatment**

1. Long course of antibiotics is the main treatment. the quinolones, the aminoglycosides, and the tetracyclines.  
Or C/S
2. Surgery may be needed to open the nasal airway and to correct deformities.

## Rhinitis Medicamentosa

### Definition

iatrogenic condition where rhinitis develops as a result of inappropriate use of vasoconstrictor nasal drops

### Pathophysiology

### Clinical features

1. Rebound nasal obstruction following the use of vasoconstrictor nasal drops.
2. Fiery red edematous nasal mucosa.



### Treatment

1. Withdrawal of the offending nasal drops.
2. Topical steroid preparations

## Vasomotor Rhinitis

increase reactivity of the nasal mucosa, It is often identical to true allergic rhinitis in its clinical picture However, allergic tests are *negative*.

### Etiology

Autonomic imbalance:

1. Sudden temperature and humidity changes.
2. Cooling of the skin which is the cause of sneezing on getting out of bed.
3. Emotional instability.
4. Non-specific irritants, such as fumes and smoke.
5. Pregnancy

### Treatment

1. Drug treatment is similar to that of allergic rhinitis

**THANK YOU**