

# CASE REPORT

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## RHINOSCLEROMA OF LARYNX: A CASE REPORT

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**ABSTRACT:** Rhinoscleroma is a chronic granulomatous disease of the respiratory mucosa caused by klebsiella rhinoscleromatis. It commonly involves the nose followed by nasopharynx, oropharynx, larynx, trachea and bronchi. Middle aged females are most prone for this disease. Isolated laryngeal involvement is a rare condition. It should be differentiated from other chronic granulomatous conditions and should be managed early to decrease the morbidity caused by the disease.

**KEYWORDS:** Rhinoscleroma, Klebsiella rhinoscleromatis, Larynx.

**INTRODUCTION:** The name rhinoscleroma was first used by Von Hebra & Kaposi.<sup>(1)</sup> It is a chronic granulomatous disease caused by gram negative bacillus, klebsiella rhinoscleromatis which is also known as Frisch bacillus. It is a progressive disease commencing in the nose and later extending into the nasopharynx, oropharynx, larynx and sometimes trachea and bronchi. Isolated laryngeal involvement is rare condition, whereas laryngeal involvement followed by the nasal infection occurs almost half of the cases. This disease is also known as respiratory scleroma. It occurs most commonly in the middle aged females of low socio-economic status. Most cases are found in central America, Africa, Middle east,<sup>(2)</sup> Indian subcontinent and Indonesia. Mikulicz established the non-inflammatory nature of the disease.<sup>(3)</sup>

It occurs in three stages.<sup>(4)</sup>

1. Atrophic stage.
2. Granulomatous stage.
3. Cicatricial stage.

Histologically granulomatous tissue infiltrates the submucosa and is characterized by the presence of plasma cells, lymphocytes and eosinophils. Mikulicz cells<sup>(5)</sup> are transformed macrophages which have a central nucleus and vacuolated cytoplasm containing bacilli and russel bodies. Russel bodies are plasma cells having eccentric nucleus and deep eosin-stained cytoplasm. Here we present a isolated case of laryngeal rhinoscleroma presented in 5<sup>th</sup> decade.

**CASE REPORT:** A 60 year old female present with a chief complaint of difficulty during swallowing associated with swelling on the left side of neck in front of the anterior border of sternocleidomastoid at the level of thyroid cartilage of 10 days duration. Difficulty during swallowing is more for solids than liquids, insidious in onset and non-progressive. There is no history of fever, no change of voice. There is no history of choking episodes during swallowing. No respiratory symptoms like cough or noisy breathing.

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**Clinical Findings:** The swelling is firm in consistency, non-tender, no local rise of temperature, skin over the swelling is pinchable and healthy. Swelling extending from angle of mandible to clavicle on left side.

Nose – Normal.

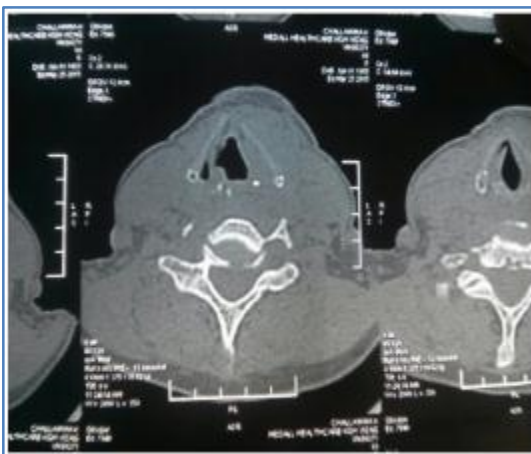
Oral cavity – Normal.



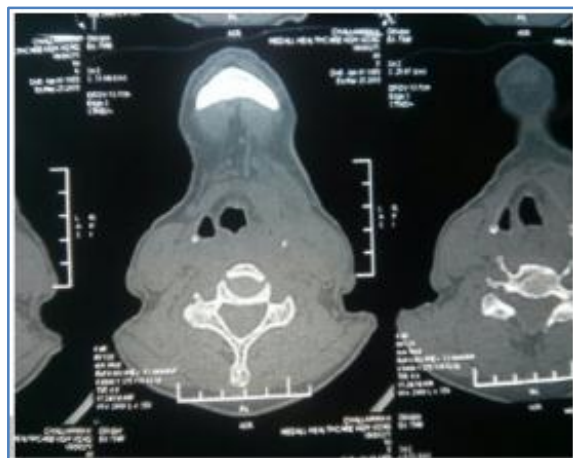
**Fig. 1**

On indirect laryngoscopic examination,  
Base of the tongue – Normal.  
Right vallecula – Normal.  
Epiglottis – Normal.

Bulge of left vallecula and lateral pharyngeal wall obscuring the left false and true vocal cords. Left arytenoid is edematous with restricted mobility. Diagnostic nasal endoscopy done showed no abnormality.



**Fig. 2**



**Fig. 3**

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Fig. 4

Computerized Tomography (CT) showed a unilateral swelling on left hemilarynx and left side of the neck.

Direct laryngoscopic examination done under general anesthesia and biopsy has been taken from submucosal swelling and sent for histopathological study. Microscopic sections showed fragments of squamous lined mucosa showing mucosal hyperplasia with no atypical features. Stroma beneath is infiltrated by several inflammatory cells including large numbers of foamy histocytes, neutrophils and lymphocytes favouring rhinoscleroma.

Medical management started with Tab. Clindamycin 300mg bid, after doing routine blood investigations. Neck swelling has been subsided after 3 weeks of antibiotics and dysphagia also relieved.

**DISCUSSION:** Rhinoscleroma is caused by gram negative cocco-bacillus, klebsiella rhinoscleromatis. It occurs in three stages. Atrophic stage, proliferative stage and cicatricial stage. Initially patient complains of nasal discharge due to involvement of nose. Second stage presents as granulomas in mucosa with a spread to respiratory tract submucosally. Third stage presents as scar formation causing submucosal thickening leading to obstruction. Infection occurs by person to person contact. Most of the times nose is first involved followed by other parts of respiratory tract. It should be suspected after excluding common diseases like tuberculosis, syphilis, wegeners granulomatosis and inverted papilloma. Clinically sub-mucosal spread is seen. Histologically, mikulicz cells are the tissue macrophages that migrates to the places where neutrophils fail to destroy the klebsiella infection, there by engulfing bacteria. Russel bodies are transformed plasma cells having a deeply eosin stained cytoplasm with eccentric nucleus. MRI can be used to know the involvement of soft tissue showing mild to marked signal intensity in both T1 and T2 weighted images.<sup>(6)</sup>

Rhinoscleroma commonly occurs in the nose, in the middle aged females, here we report a case of a 60 yrs old female with isolated laryngeal involvement without nasal symptoms which is uncommon presentation. Medical treatment of rhinoscleroma is with tetracyclines, aminoglycosides and macrolide antibiotics.

Treatment is prolonged for atleast 6 weeks and must continue until atleast 2 consecutive cultures are negative.

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**CONCLUSION:** Rhinoscleroma is a disease caused by *Klebsiella rhinoscleromatis* or *Frisch bacilli*. Infection usually presents nasal symptoms like nasal discharge and obstruction. The disease is common in young middle aged females but can occur in old age females also as in our case. Presentation with throat symptoms and signs can also occur with dysphagia and neck swelling. Histopathological examination is necessary for conformation which shows mikulicz cells and russel bodies. Medical treatment includes macrolides like clindamycin, rifampicin and ciprofloxacin. Local application of 2% acriflavin for a period of 8 weeks is noted affective. Surgical debulking is necessary when there is an airway compromise.

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