A Rare Case of Disseminated Tuberculosis - Laryngeal Tuberculosis with Lupus Vulgaris and Pulmonary Tuberculosis

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ABSTRACT

Laryngeal tuberculosis is a rare disease (incidence <1%). It is almost always associated with pulmonary tuberculosis. Lupus vulgaris is a common morphologic form of cutaneous tuberculosis, but this type of association with laryngeal and pulmonary tuberculosis is rare. We report the case of a 46-year-old woman who presented with hoarseness of voice, dysphagia, crusting plaque over upper lip, nose, naso and oropharynx and in the larynx. Bronchoscopy revealed a proliferative growth in the epiglottis which was diagnosed as laryngeal tuberculosis on histopathology.

KEYWORDS: Disseminated Tuberculosis, Laryngeal Tuberculosis, Lupus Vulgaris.

INTRODUCTION

Laryngeal Tuberculosis classically develops due to direct spread to the larynx from contaminated sputum but can also occur due to hematogenous spread [1]. It is thought to develop due to pooling of infected sputum when the patient is in the recumbent position. This form of involvement in patients with sputum smear positive pulmonary tuberculosis, most commonly involves the posterior glottis. Laryngeal involvement was considered a grave prognostic sign indicative of severe disease before the anti-tubercular chemotherapy was available. Because of improved living conditions, BCG vaccination and effective chemotherapy, the incidence and severity shows a downward trend.

Lupus Vulgaris is a chronic, progressive and tissue destructive form of cutaneous tuberculosis seen in patients with moderate or high degree of immunity. Lupus vulgaris is probably the most common manifestation of cutaneous tuberculosis, but spread to larynx with typical features of laryngeal lupus is rare [2]. We are presenting a case of lupus vulgaris of face and nose with tuberculosis of larynx with pulmonary tuberculosis, which is even rarer.

CASE REPORT

A 46 yr old female patient presented to the department of Pulmonary Medicine with complaints of skin lesions over nose and lip, hoarseness of voice, dysphagia since 1 year. She was also complaining of dry cough, loss of weight, loss of appetite, low grade fever. On examination large skin lesions with crusting over plaques were present all over the nose extending onto the upper lip and filtrum. Scaling and closely studded papules are seen all over the plaques. Ulceration is seen over the plaque at the opening of right nostril (figure 1).

Chest X ray revealed a large nodular opacity of approximately 1x1 cm size in the left upper zone. Sputum for AFB was negative. Mantoux test was 25 mm of induration at the end of 72 hrs. ESR was 45 mm. Contrast enhanced computerized tomography (CECT) chest showed a well defined nodular lesion with central calcification and air lucencies in posterior segment of left upper lobe. It was measuring 1.8 x 1.8 cm with surrounding nodular lesions suggestive of pulmonary tuberculosis.

Bronchoscopy showed yellow coloured crusts in the base of the both nostrils. Normal architecture of Epiglottis, ariepiglottic folds, arytenoids, false cords and Vocal cords was lost, which were replaced by the thick proliferative granulomatous lesion (figure 2). The size of the glottic opening was very much reduced and bronchoscope could not be passed beyond the vocal cords.
We proceeded with biopsy from the skin and epiglottic lesions. Histopathological examination revealed typical granulomatous tubercle with epitheloid cells, langhan’s giant cells and a mononuclear infiltrate with minimal caseation suggestive of tuberculosis.

Diagnosis of lupus vulgaris with laryngeal and pulmonary involvement was made; patient was started on anti tubercular drugs. The patient was administered anti tubercular therapy (ATT) consisting of Rifampicin (450mg), Isoniazid (600mg) ,Pyrazinamide(1500mg) and Ethambutal(1200mg) thrice a week for two months followed by Rifampicin and Isoniazid for the next four months. The patient responded very well and the lesions in the lip, larynx and lung regressed showing improvement. Lupus vulgaris lesions over the face were completely healed after 6 months of anti-tubercular therapy (figure 3). Epiglottic growth got completely reduced as seen in Bronchoscopy which was repeated after 2 months of intensive phase of ATT (figure 4).

**DISCUSSION**

Laryngeal tuberculosis is the most common granulomatous disease of the larynx and has usually been considered to result from pulmonary tuberculosis, although it might be localized in the larynx as a primary lesion without any pulmonary involvement [3]. Incidence of laryngeal tuberculosis is less than 1% of all tuberculosis cases [4]. The pathogenesis of laryngeal involvement is either primary [5] or secondary [6]. Primary lesions occur in the absence of pulmonary disease. In the present case, the laryngeal involvement could be secondary to pulmonary disease or lupus vulgaris.

Amongst Different forms of cutaneous tuberculosis commonest is that of lupus vulgaris constituting 59% of total skin tuberculosis. This is a chronic, progressive and tissue destructive form of cutaneous tuberculosis seen in patients with moderate or high degree of immunity [7]. Lesions appear in normal skin as a result of direct extension of underlying tuberculous foci of lymphatic or hematogenous...
spread, or by primary inoculation, BCG vaccination or in scar of old scrofuloderma. Lupus of pharynx and larynx occurs in 10-20% of the patients with lupus of the Skin [8]. Lupus is twice as common in females as in males and is developed most often in early adult life [9]. The mucocutaneous junction of the nasal septum is the most common site of inoculation, as this is frequently exposed to trauma in patients who have the habit of picking the nose. The diagnostic feature is the presence of apple jelly nodules, pin head sized red spots which do not blanch when compressed, for instance with a glass slide. This feature is not made out in many pigmented patients [10].

The course of the disease is very slow. The cartilage within the affected area is progressively destroyed. Bone is usually spared. In more advanced cases, there may be more extensive involvement of the floor of nose and turbinates, spreading backwards from the primary site. The surface shows superficial ulcers and crusts. The septum may perforate but only in cartilaginous portion. It may spread back into nasopharynx, the palate and the larynx [11]. The commonest parts involved are vocal cords (50-70%) and the least affected is the epiglottis. In the present case, epiglottis was involved which itself was a rare presentation.

CONCLUSION
A high index of suspicion and a thorough clinical examination of the pharynx and larynx is mandatory for not missing this diagnosis of laryngeal lupus. This case is a warning that a growth-like lesion in the upper respiratory tract could be tuberculous in origin and, therefore, efforts should be made to locate an active or inactive lesion elsewhere in the body. This case also highlights the need of awareness regarding cutaneous tuberculosis among physicians who manage pulmonary and extrapulmonary tuberculosis.

REFERENCES
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