Laryngeal Tuberculosis: an Important Issue

Bambang Hermani, Diani Sawitra

ABSTRACT

In developing countries like Indonesia, pulmonary tuberculosis still ranks among the major health problems and the prevalence of laryngeal tuberculosis are therefore still high. It is important for physicians and otolaryngologist to recognize the cardinal sign and symptoms of laryngeal tuberculosis in order to make an early diagnosis.

An illustration of four cases with laryngeal tuberculosis is reported. All cases presented with hoarseness and diagnosis of laryngeal and pulmonary tuberculosis were made at ENT department.

Key words: laryngeal tuberculosis, pulmonary tuberculosis, hoarseness.

INTRODUCTION

Tuberculosis is a chronic bacterial infection caused by Mycobacterium tuberculosis and characterized by the formation of granuloma in infected tissues and by cell-mediated hypersensitivity. The common part of the disease is the lung, but other organs may be involved. In 1993, the World Health Organization (WHO) declared TB to be a “global health emergency”. About one third of the world’s population is infected with M. tuberculosis. Most of cases 75% occur in the productive group age (20-49 years). Indonesia has the third highest prevalence of TB in Asia, after China and India. The estimated incidence of new positive sputum smear cases in Indonesia was 585,000. Based on the Household Health Survey 1996; TB is the third most common cause of death in Indonesia.

The most common ENT manifestation of tuberculosis is laryngeal tuberculosis. Laryngeal tuberculosis has been considered to be the result of extra pulmonary manifestation and has frequently been associated with pulmonary infections. Although rarely found, laryngeal tuberculosis should be suspected in all individuals with hoarseness and significant dysphagia and can be confirmed with appropriate diagnostic and radiographic examinations, leading to proper management and treatment.

Since the last decade, the laryngeal tuberculosis has gained new interest for three main reasons: a) most physicians do not consider tuberculosis in the differential diagnosis of various laryngeal symptoms resulting in misdiagnosis and inappropriate treatment; b) the fact that the disease nature has changed (regarding the patients average age, the site and the type of lesions, the presence of concomitant pulmonary tuberculosis); c) the increase incidence of autoimmune deficiency syndrome (AIDS) and other immunodeppressed diseases which will further increase the incidence and spectrum of tuberculosis.

This paper aims to present our clinic experience with such cases. Present study in ENT Department of Cipto Mangunkusumo hospital aims to evaluate the clinical picture of laryngeal tuberculosis.

CASE ILLUSTRATION

Case 1

A 39-year old male presented with a 4-month history of hoarseness. This condition was accompanied by sore throat as well as pain during swallowing. He also stated that he had a productive cough without hemoptysis for over 5 months. He also suffered from progressive weight loss and night sweats. There was no history of fever and dyspnoe. He was not a smoker. His past medical history revealed pulmonary tuberculosis controlled by a complete regiment, 10 years before. He then sought for medical advice, antibiotics and steroids were given as anti tuberculosis drug without any improvement.

On examination, he was underweight, no pallor, and had no significant lymph node enlargement. On ENT examination, his voice was almost aphonie and hoarse. Telelaryngoscopy showed a hyperemic epiglottis, edema of arytenoids. A pale hypertrophic lesion was noted on

* Department of Otorhinolaryngology, Faculty of Medicine, University of Indonesia/Dr. Cipto Mangunkusumo Hospital, Jakarta Indonesia.
the arytenoids and an ulcerative lesion was shown on interarytenoid area. No mass, nor nodule or tubercles were observed. Chest X-ray showed confluent infiltration in the apices of both lungs consistent with advanced pulmonary tuberculosis. A CBC examination and other biochemical parameters were unremarkable. *Mycobacterium tuberculosis* was confirmed on direct sputum smear examination. Standard anti-tuberculosis medication of RHEZ daily for 2 months with RH for 6 months was commenced. On follow up, telalaryngoscopy and chest X-Ray showed complete regression of the disease.

**Case 2**

A 36-year old female was referred to ENT Department Cipto Mangunkusumo Hospital with a suspicious laryngeal carcinoma in the interarytenoid area. She has a 4-month history of hoarseness, chronic cough and difficulty on swallowing, her voice was almost aphonic. This condition was accompanied by sore throat as well as pain during swallowing. She has neither history of fever nor hemoptysis, progressive weight loss, night sweats. She was not a smoker. She had sought for medical advice, and diagnosed with asthma, then antibiotics and steroids were given without any improvement.

On examination, she was underweight, no pallor, no significant lymph node enlargement. Telalaryngoscopy showed irregular whitish mass on the interarytenoid area. The left vocal fold showed a whitish ulceration with normal mobility. Chest X-ray showed confluent infiltration in the apices of both lungs with moderately pulmonary lesions. A CBC examination and other biochemical parameters were unremarkable. The ESR rate was 20mm/hour. *Mycobacterium tuberculosis* was confirmed from sputum’s direct smear. The biopsy was planned, but the patient refused. The anti tuberculosis treatment was given; on follow up the white mass was still seen on the arytenoids. The sputum direct smear was also still positive. Two months later, finally, the biopsy was performed, the histopathology result showed no acid-fast bacilli or neoplasma which was consistent with chronic laryngitis. She is still on anti tuberculous drug with Rifampicin and INH intermitently 3 times a week and her condition has been improved.

**Case 3**

A 27-year old female presented to ENT Department Cipto Mangunkusumo Hospital with a two-week history of a progressive hoarseness accompanied by dysphagia and odynophagia. She also complained of productive cough for a month. She has progressive weight loss and night sweats. She was not a smoker. A history of a long term contact with a person diagnosed with pulmonary tuberculosis was obtained.

On examination, she was underweight, no pallor, no significant lymph node enlargement. On ENT examination she was apheric. Telalaryngoscopy showed edema, hyperemia, ulceration and tubercle on the epiglottis. The arytenoids were edematous and covered with whitish plaques. The ventriculare folds were hyperaemic and edematous. The remainder of the
The larynx could not be evaluated. Chest X-ray showed milliary tuberculosis in both lungs in which advanced pulmonary lesions were present. A CBC and other biochemical parameters were unremarkable. The ESR was 23 mm/hour. *Mycobacterium tuberculosis* was not confirmed on direct smear sputum examination. The four drug regimen was commenced. Unfortunatelly, she developed pyrazinamid allergy, the drug was replaced by streptomycin for one month. She was then on anti tuberculous drug with Rifampicin and INH intermitently for 7 months, and her condition was improving.

**Figure 5. Edema, Hyperemia, Ulceration and Tubercle on The Epiglottis Edematous. Arytenoids were Covered with Whitish Plaques.**

**Figure 6. Two Months After Treatment**

**Case 4**

A 34 year old male was referred to ENT Department Cipto Mangunkusumo Hospital with a history of a 3-month hoarseness and severe dysphagia, accompanied by a one month history of odynophagia, productive cough. He has progressive weight loss and night sweats, not a smoker. He had been treated by a general practitioner and otolaryngologist with no improvement.

On examination, he was underweight, with no pallor, and no significant lymph node enlargement. On ENT examination he was aphonie. Telelaryngoscopy showed edema, hyperemia, irregular ulceration and tubercle on the epiglottis. The arytenoids were edematous and covered with whitish plaques. The remains of the larynx could not be evaluated. Chest X-ray showed milliary tuberculosis in both lungs in which advanced pulmonary lesions were present. A CBC and other biochemical parameters were unremarkable. The ESR was 32 mm/hour. *Mycobacterium tuberculosis* was confirmed on sputum’s direct smear. The anti tuberculosis treatment was given for 7 months. Then his condition improved.

**Figure 7. Hyperemia, Edematous, Tubercle and Irregular Ulceration on Epiglottis.**

**DISCUSSION**

Laryngeal tuberculosis is still relatively uncommon, approximately involved in 1-10% of all cases of tuberculosis. The highest incidence of tuberculosis of the larynx is in the young adult between 20-30 years, other study showed that the highest incidence shift to fourth and fifth decades. In our case series, the patients are adults whose age between 20-40 years.

Individual presentation may vary but the commonest presenting feature was hoarseness with duration of two weeks to four months. The laryngeal symptoms are frequently indistinguishable from non specific laryngitis or laryngeal malignancy. Odinophagia is also noted in all patients in this study. Breathlesness also occurred in one patient because of asthma. The most common constitutional symptom documented was weight loss.

Recent literature has suggested that exophitic lesions are more common than ulcerating lesions. Formerly, posterior laryngeal involvement was more common due to the recumbent position enabling pooling of sputum in posterior larynx, the advanced stage of the disease due to late presentation and poor patient compliance. In these cases, no predilection for any laryngeal site was found.

In three of our case series, the pulmonary lesions were advanced. The presence of advanced pulmonary lesions may be explained by rapid progression of disease due to late presentation and poor patient compliance, the two factors which are highly prevalent in a developing country such as Indonesia.

Many of the studies conducted in developed countries have discussed the role of biopsy for
diagnosis. A study in Tanzania showed that if patient with pulmonary tuberculosis complained of hoarseness of voice, then diagnosis of concomitant tuberculous laryngitis should be considered as the first possible diagnosis. In this study, the diagnosis of laryngeal tuberculosis was made by indirect and telaryngoscopic appearances.

The response to anti-tuberculosis treatment proved to be another important diagnostic criteria. Tuberculosis is increasing worldwide, and also the laryngeal tuberculosis. As it is a contagious disease with risks to health care staff and patients, a diagnosis must be made as soon as possible. We would like to emphasize the importance of considering diagnosis of laryngeal tuberculosis in patients with hoarseness and laryngeal pain. Therefore, laryngeal tuberculosis must be included in the educational programmes in otolaryngology.

CONCLUSION

In conclusion, numerous physician (otorhinolaryngologist, internist, general practitioner, etc) who deal with the various laryngeal symptom and disease should be aware of the existence of laryngeal tuberculosis and the changing pattern of this disease.

REFERENCES