

Laryngeal Tuberculosis Clinically Similar To Laryngeal Cancer: Report Of 3 Cases

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Abstract

Tuberculosis is caused by infection with the bacillus *Mycobacterium tuberculosis hominis*. Pulmonary tuberculosis is very often contrary to the laryngeal tuberculosis. Clinical features of laryngeal tuberculosis are very similar to laryngeal carcinoma and biopsies are necessary to exclude or to confirm diagnosis. Laryngeal tuberculosis is almost always a result of pulmonary tuberculosis, though rarely isolated cases of tuberculosis of the larynx do occur. During the period of July 1999- July 2002 there were three cases of laryngeal tuberculosis in ENT/Head and Neck Surgery Clinic, University Clinical Center of Prishtina, clinically presented as laryngeal tumor, but currently diagnosed by histopathology examination. The presented cases should warn physicians, especially ENT specialists, not to think that laryngeal tuberculosis belongs to the past and the improvement of socioeconomic conditions have solved this health care problem.

INTRODUCTION

According to the "Global Tuberculosis Control" performed in 1999, 173 countries reported their tuberculosis infection data to the WHO. Both at the national and international (Centers of Disease Control) levels, guidelines have been drawn up to improve and coordinate the fight against tuberculosis. Two worldwide significant events have affected the increase morbidity rate seen in the last decade in the more highly industrial countries: immigration from countries outside the European Community and HIV infection (1).

In Kosovo, with population of approximately 2.000.000 habitants, the incidence of tuberculosis is 80/100.000 per year in 2001 and 72/100.000 per year in 2002. There are no data for 1999 and 2000 because of Kosovo war (2).

In developing countries throughout the world, pulmonary tuberculosis is still one of the most prevalent communicable diseases, accounting for many deaths. Tuberculosis is caused by infection with the bacillus *Mycobacterium Tuberculosis hominis*. In the past, laryngeal granulomas were more prevalent, primarily because of the frequency of tuberculosis. More recently such lesions have often been diagnosed by clinicians attempting to rule out carcinoma (3). Clinically laryngeal involvement occurs in approximately 3% of cases of moderately advanced pulmonary tuberculosis (4).

The goal of this study is to assess all patients admitted to ENT Clinic in Prishtina with laryngeal tuberculosis, symptoms and signs, diagnostic and therapeutic procedures undergone in these patients during 3-year period 1999-2001.

CASE REPORTS

PATIENT 1

N.P., 27-years old male, Albanian, unemployed coming from a Kosovo village. Admitted to the ENT Clinic because of the weight loss, hoarseness and dysphagia for the period of 2 months. Hoarseness lasts for one and half month. Patients before admission had taken symptomatic therapy: antibiotics, vitamins and antitussives but no improvement had been shown. No history of tobacco, alcohol and drug abuse. No history of allergy, poisoning and other severe disorder. No family history of any malignant disease. In admission patient was conscious, non-febrile. Dysphonia was present. Patient had poor constitution, with severe asthenia. Indirect laryngoscopy had shown partially amputated epiglottis on right side, with infiltrative-ulcerative process in the right aryepiglottic fold. Vocal folds were moving, without pathologic changes. Mucopurulent secretion is present. No palpable neck mass present. Laboratory analyzes was normal. Chest x-rays had shown old enlarged hilus nodes and suspicious bilateral superior lobe changes.

Two days after admission, the microlaryngoscopy (MLS) procedure under general anesthesia is done. The MLS view

was same as in the indirect laryngoscopy: partially amputated epiglottis with infiltrative-ulcerative changes in the supraglottic region, suspicious to laryngeal cancer. Material for biopsy was taken.

The result of histopathology examination was: Tuberculosis. Patient was followed to the Pulmology Clinic for further examination and treatment. The patient received a conventional regimen consisting of rifampin, 600 mg daily for 12 months; isoniazid, 400 mg daily for 12 months; ethambutol, 1,200 mg daily for 12 months; and pyrazinamide, 1,500 mg daily for 6 months and he was free from disease after 2-year follow-up, but with permanent minor difficulties in swallowing, because of partial pathologic amputation of his epiglottis.

PATIENT 2

E.E., 68-year old, male, Albanian, retired farmer from a Kosovo village. Admitted to ENT Clinic because of dysphonia present 3-months before admission. He took antibiotic and corticosteroid therapy as outpatient. In admission he was conscious, non-febrile, good nourished, dysphonic. Smoker, no alcohol or drug abuser. No familiar history of malignant disease.

Indirect laryngoscopy exam: in left supraglottic region is present a grayish tumor. Vocal folds were moving, no signs of infiltration. No palpable neck mass. Chest x-rays had shown radiological changes of active secondary bronchopulmonary tuberculosis, exacerbated chronic bronchitis, emphysema and chronic cor pulmonale. Laboratory analyzes: erythrocyte sedimentation rate (ESR) - 65/first hour. EKG: cicatrix post cardiac infarction of anteroseptal wall. Videolaryngoscopy: laryngeal surface of the epiglottis with pathologic changes resembling in laryngeal cancer.

Patient undergoes MLS in general anesthesia with taken biopsy from laryngeal surface of epiglottis. Pathology result: under epithelium there were multiple epithelial granulomas with necrosis of caseous type, Langhans type of giant cells with lymphocyte ring around. Pathology diagnosis: specific inflammation-tuberculosis.

Because the other lung disease, patient was followed for further treatment to the Pulmology Department. He received a conventional regimen consisting of rifampin, 600 mg daily for 12 months; isoniazid, 400 mg daily for 12 months; ethambutol, 1,200 mg daily for 12 months; and pyrazinamide, 1,500 mg daily for 6 months. After one year

he was free from disease, but with minor difficulty in swallowing.

PATIENT 3

M.B., 62 year old, Albanian, married, farmer from a Kosovo village. His main complains were with difficulty in swallowing and short breathing for last 2 months before admission. He also was treated as outpatient with antibiotics, vitamins and local mouth antiseptics. Hard smoker, no alcohol abuse, no drug abuse.

In admission he was conscious, non-febrile, slightly short breathing. ENT exam: epiglottis is with ulcerative-necrotic pathologic changes. Laboratory analyzes: ESR - 85 first hour. Chest x-rays: suspicious fibrous tuberculosis of superior lung lobes bilateral.

After standard evaluation, patients underwent laryngoscopy under local anesthesia with taken biopsy from epiglottis. Pathology result: specific inflammation – tuberculosis.

Because patient has bronchopulmonary symptoms, after confirmation of diagnoses was followed to Pulmology Department for further treatment. Like other 2 patients, he also received a conventional regimen consisting of rifampin, 600 mg daily for 12 months; isoniazid, 400 mg daily for 12 months; ethambutol, 1,200 mg daily for 12 months; and pyrazinamide, 1,500 mg daily for 6 months. In regular follow-up there were no signs of disease after completing his tuberculostatic therapy.

Figure 1

Table 1: Summary of the presented patients.

	Patient 1.	Patient 2.	Patient 3.
Initials	N.P.	E.E.	M.B.
Gender	male	male	male
Age (years)	27	68	62
Profession	unemployed	retired farmer	farmer
ESR	normal	accelerated	accelerated
Lung x-rays	tuberculous x-rays changes	tuberculous x-rays changes	tuberculous x-rays changes
Videostroboscopy	partially amputated epiglottis, infiltrative-ulcerative	grayish tumor of supraglottic region	ulcerative- necrotic changes of epiglottis
Clinical diagnosis	Laryngeal tumor	Laryngeal tumor	Laryngeal tumor
Histopathology diagnosis	Tuberculosis	Tuberculosis	Tuberculosis

DISCUSSION

The clinical manifestations of the laryngeal tuberculosis have changed and seem to be different from those of classic reports. It might be important to consider tuberculosis in the differential diagnosis of nonspecific laryngeal disease (3). Laryngeal tuberculosis is most frequent in older males, particularly those of poor constitution and health; many of them are alcoholics (4, 6). In our presented cases, all patients were male, one young (27 years old) and two older (62 and 68 years old). Two of them were smokers. No one of them abused alcohol or narcotics.

Tuberculosis isolated to the head and neck region is common in patients with HIV infection and should be considered in the differential diagnosis of all head and neck lesions in patients infected with HIV, even in the absence of pulmonary involvement (7). There also publication on laryngeal tuberculosis in renal transplant recipients, as result of immunosuppression (8). In our presented cases, there was no suspicion on HIV infection and there were no immunosuppression therapy applied. Otherwise, in Kosovo population, until moment there are only about 100 patients HIV-positive registered.

Laryngeal tuberculosis is usually secondary to, or at least contemporary with, pulmonary tuberculosis, of which it is sometimes difficult to find evidence. In fact, for some authors, laryngeal tuberculosis without pulmonary lesions should be considered exceptional, and certainly open to the suspicion that insufficient exploration has been performed (9). In our presented cases, all patients had tuberculous pulmonary disease. In the chest x-rays of all 3 patients there were radiology certain signs for lung tuberculosis.

Alonso et al. in their report of 11 cases found the dominant symptom dysphonia in 82% of cases, either in isolation or accompanied by odinophagia or dyspnea (10). Difficulty in swallowing, hoarseness and chronic cough are main symptoms in patients suspicious to laryngeal carcinoma. Under laryngoscopy, tuberculous laryngitis can be indistinguishable from carcinoma or chronic laryngitis (11). Irifune et al. in a report of 15 cases in 8-years period found the following symptoms: hoarseness in 73%, cough in 67%, odinophagia or pharyngodynia in 60%, weight loss in 47% and dysphagia in 27% (12). Similar complaints have been shown in our patients too.

Macroscopic view of laryngeal tuberculosis differs from cases to case and from studies to studies. Some authors find

diffuse oedema and pseudo tumoral image, concluding that classic ulcero-infiltrative lesions are rarity (10). At the present time, the site of the lesion is controversial. Some studies find the lesions located in any zone and others found greater incidence in the supraglottis (13). In our presented cases, ulcero-infiltrative lesions and pseudo-tumoral view were present. We saw in our cases partial amputation of epiglottis suspicious to laryngeal cancer.

Laryngeal tuberculosis manifested as diffuse bilateral lesion with or without a focal mass and was always associated with active pulmonary tuberculosis. Although the Ct appearances may not be specific, the possibility of tuberculosis should be raised when a bilateral and diffuse laryngeal lesion is seen without destruction of the laryngeal architecture in patients with pulmonary tuberculosis. Direct laryngoscopy and biopsy are mandatory to establish a definitive diagnosis (14). Demonstration of acid-fast bacilli on biopsy or smear obtained by direct laryngoscopy helps in determining the diagnosis. The numerous physicians who deal with the various laryngeal symptoms and diseases should be aware of the existence of laryngeal tuberculosis and the changing patterns of the disease (15). However, making the diagnosis difficult can be the presence of pseudoepitheliomatous hyperplasia, which mimics squamous cell carcinoma (16). The three cases we presented here were admitted to ENT Clinic because of suspicion to laryngeal cancer, but biopsy and pathology examination has lead to accurate diagnosis and treatment.

CONCLUSION

Laryngeal tuberculosis usually is presented clinically as laryngeal tumor, very similar to laryngeal cancer. The main diagnostic procedure to distinguish between these two entities is MLS with pathology definitive diagnosis.

Laryngeal tuberculosis is secondary to pulmonary tuberculosis and further chest radiology and microbiology exams must be undertaken. Therapy for laryngeal tuberculosis is long with correct follow-up.

The presented cases should warn physicians, especially ENT specialists, not to think that laryngeal tuberculosis belongs to the past and the improvement of socioeconomic conditions have solved this health care problem.

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