

Extranodal tuberculosis of head and neck: a report of four cases

Baş boyun bölgesine lokalize ektranodal tüberkülozlu 4 olgumuz

Emine Elif Altuntaş, Mansur Doğan, Suphi Müderris, Şahende Elagöz

Departments of Otorhinolaryngology (Assist. Prof. E. E. Altuntaş, MD; M. Doğan, MD; Prof. S. Müderris, MD) and Pathology (Prof. Ş. Elagöz, MD), Cumhuriyet University School of Medicine, TR-58140 Sivas

Abstract

Nowadays fueled by the acquired immunodeficiency syndrome epidemic, growing drug abuse, and increasing immigration, the prevalence of tuberculosis has increased dramatically in the industrialized countries. The most common form of head and neck tuberculosis is lymph node tuberculosis, representing approximately 15% of cases of extrapulmonary tuberculosis and 1%-2% of all new cases of tuberculosis. Tuberculosis of the head and neck can involve the cervical lymph nodes, larynx, temporal bone, sinonasal cavity, eye, pharynx, thyroid gland, and skull base. Although computed tomography and magnetic resonance imaging can accurately demonstrate the sites, pattern, and extent of the disease, both modalities have limitations in the evaluation of head and neck tuberculosis. A thorough knowledge of head and neck tuberculosis is important because early diagnosis and therapy may prevent a permanent loss of function or needless surgery. Histopathologic examination is very important for head and neck region tuberculosis. We report our experience of four cases of extranodal tuberculosis of head and neck with description of the clinical case, diagnostic workup and treatment and present a review of the literature.

Keywords: Extranodal tuberculosis, head and neck, histopathologic examination, diagnosis

Özet

Günümüzde endüstriyel toplumlarda akut immün yetmezlik sendromu epidemileri, ilaç bağımlılığı ve köylerden büyük şehirlere göç olayındaki artış nedeniyle tüberküloz prevelansında belirgin bir artış söz konusudur. Baş boyun bölgesi tüberkülozunun en sık görülen formu lenf nodu tüberkülozudur ve olguların yaklaşık %15'ni oluşturur; yeni tanı konan tüberküloz olgularında ise %1-2'sinde ekstrapulmoner tüberküloz saptanmaktadır. Baş boyun bölgesinde tüberküloz servikal lenf nodlarını, larenks, temporal kemik, sinonasal kavite, göz, farenks, tiroid bezi ve kafa tabanında gözlenir. Baş boyun bölgesi tüberkülozlu olgularda lezyonun lokalizasyonu, paterni ve yayılımının belirlenmesinde bilgisayarlı tomografi ve manyetik rezonans kullanılır; ancak her iki yöntemde hastalığın ayırıcı tanısının yapılmasında yetersiz kalmaktadır. Baş boyun tüberkülozlu olguların erken tanı ve tedavilerinin yapılması fonksiyon kayıplarının önlenmesi ve cerrahi tedavi gerekliliğini azaltması nedeniyle önemlidir. Baş boyun bölgesindeki ektranodal tüberkülozlu olguların tanı ve tedavisinin planlanmasında histopatolojik tanı çok önemlidir. Bu yazıda klinik bulguları, tanısal incelemesi ve tedavisi ile dört baş ve boyun ektranodal tüberküloz olgusu sunuldu ve ilgili literatür gözden geçirildi.

Anahtar sözcükler: Ektranodal tüberküloz, baş ve boyun, histopatoloji, tanı.

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Corresponding author:

Dr. Emine Elif Altuntaş, Kulak Burun Boğaz Anabilim Dalı, Cumhuriyet Üniversitesi Tıp Fakültesi, TR-58140 Sivas. Eposta: ealtunta@yahoo.com

Introduction

Tuberculosis, one of the oldest diseases in man is even today a leading cause of human suffering and loss of life. Fueled by the acquired immunodeficiency syndrome epidemic, growing drug abuse, and increasing immigration, the prevalence of tuberculosis has increased dramatically in the industrialized countries [1].

Tuberculosis is known to affect almost every organ in the body, and it should be a concern of each and every medical practitioner. Cervical lymphadenopathy is the most common form of head and neck involvement [1, 2]. Tuberculosis can also involve the larynx, temporal bone, sinonasal cavity, eye, pharynx, thyroid gland, and skull base. However, tuberculosis of the head and neck region other than cervical lymph node tuberculosis is now extremely rare. Head and neck tuberculosis is difficult to diagnose clinically and is often confused with carcinoma. Head and neck tuberculosis is more of a diagnostic and therapeutic problem than is pulmonary tuberculosis, partly because it is less common and consequently less familiar to clinicians [3].

The aim of this study was to investigate the different presentations of head and neck tuberculosis and discuss its diagnostic difficulties and importance of histopathologic diagnosis for treatment planning.

Case report

This study is a retrospective analysis of four patients who primary with tuberculosis of head and neck region.

Case 1: laryngeal tuberculosis

A 41-year-old man presented with 1-year history of hoarseness and dysphagia. The left vocal cord was totally edematous and congestive; but the movements of the vocal cords was normal (Figure 1).



Figure1. Endoscopic image of cord vocals. Totally edematous and congestive left vocal cord, and secretion on the left false vocal cord.

The glottic closure was incomplete during the phonations. He had a history of lung tuberculosis. Blood investigations were normal, and chest x-ray showed fibrosis. Sputum microscopy and culture were negative; therefore microlaryngoscopy was done under general anesthesia, and biopsy was taken, which showed pseudoepithelial hyperplasia and this findings remained tuberculosis so the diagnosis confirmed as tuberculosis (Figure 2a,b) by the pathologist's, so the biopsy material's histopathologic examination showed features of tuberculosis and then patient treated with medically.

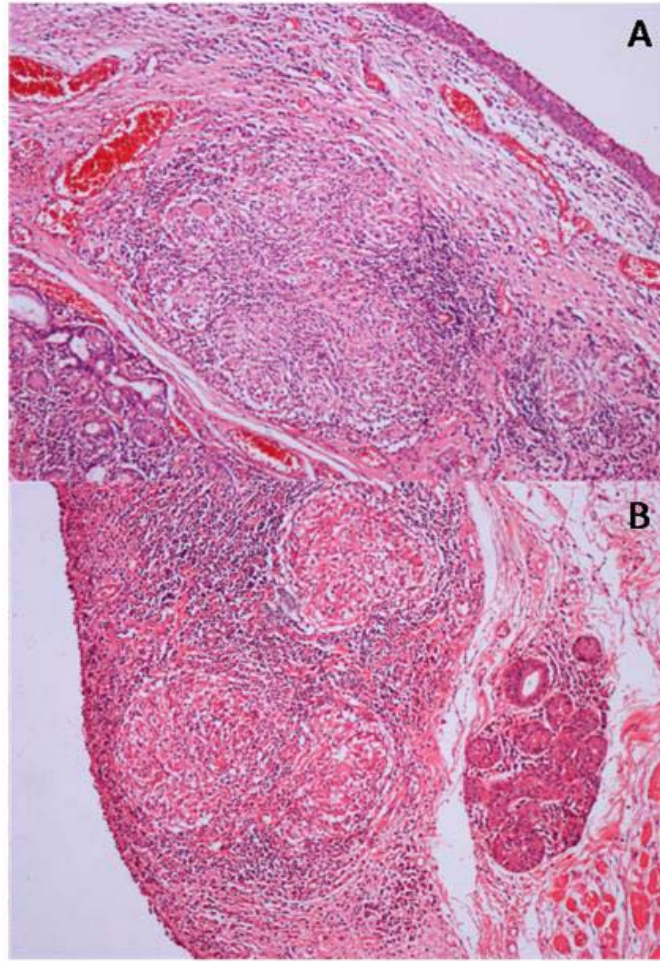


Figure 2. A. Representative image of histological appearance of laryngeal mucosa (H&E). B. Non-necrotizing and necrotizing granulomas with dense mononuclear inflammatory cell infiltration were seen under the squamous epithelium (HE, $\times 25$).

Case 2: salivary gland tuberculosis

A 22-year-old female presented with 3-months history of left parotid gland region approximately 2x4 cm diameter, mobile mass. Ear, nose and throat examination was normal. Neck ultrasonography (US) was showed 28x14 mm diameter cystic mass inside the left parotid gland including calcification; and neck computerized tomography (CT) was showed left parotid gland contains 1,5x3x4 cm cystic mass (Figure 3).

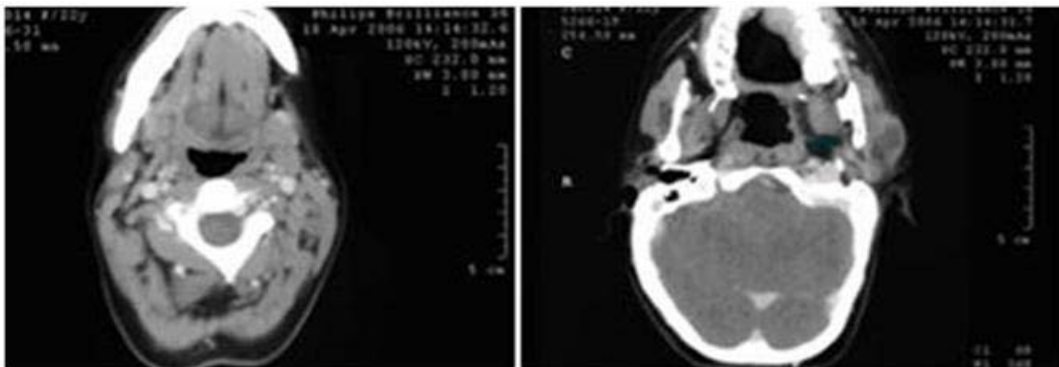


Figure 3. Computerized tomography (CT) image of parotid gland, and gland contains 1,5x3x4 cm cystic mass

Fine needle aspiration cytology (FNAC) was negative for malignancy, a superficial parotidectomy was performed. Surgical material showed features of tuberculosis and then

patient treated with medically.

Case 3: paranasal sinus tuberculosis

A 49-year- old female presented with 1–year history of left eye pain and enlargement. Patient hospitalized with orbital cellulitis. Middle turbinate hypertrophy and purulent secretion in the left nasal cavity were detected at anterior rhinoscopy. Ear and throat examination was normal. Mucosal involvement in left frontal sinus was found by paranasal sinus CT (Figures 4 and 5).



Figure 4. Paranasal sinus CT imaging show mucosal involvement in left frontal sinus.

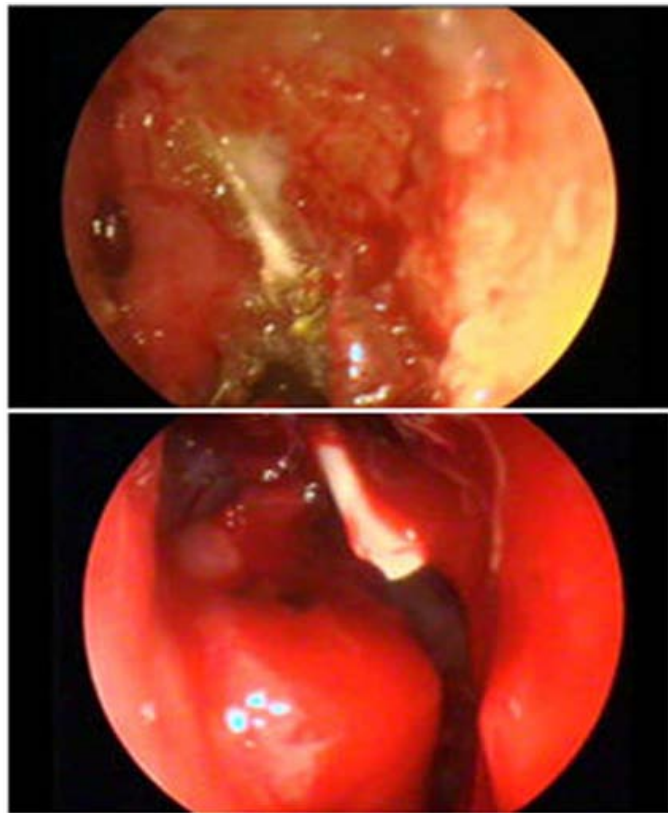


Figure 5. Endoscopic imaging of middle turbinate and nasal cavity; middle turbinate was hypertrophic and purulent secretion was seen in the left nasal cavity were detected

From the nasal secretion culture was done and normal nasal flora was growth; so patient

treated with ethmoidectomy and frontal sinusotomy. Histopathologic examination of surgical material showed feature of tuberculosis and patient treated with medically.

Case 4: nasal tuberculosis

A 22-year-old female presented with nasal obstruction, nasal cellulitis, skin ulceration, and half of the face edema. Both of the nasal cavities have got purulent and dense secretions. From the nasal secretion culture was done and coagulase negative staphylococcus aureus was growth. Patient was treated with nonspecific drugs but had no improvement. Than nasal mucosal biopsy was done and histopathologic examination of this material showed feature of tuberculosis and patient treated with medically.

Discussion

The effective use of isolation and the advances of antituberculosis chemotherapy have led to a decrease in the incidence of tuberculosis. Tuberculosis was once thought to be almost eliminated, but it is now on the increase, primarily due to the AIDS epidemic. It may be primary in the nose or paranasal sinuses or may involve these as part of diffuse respiratory or multisystem involvements. Albeit, the presences of AIDS or other immunosuppressive disease and long- term use of corticosteroid drugs may result in the increased incidence of tuberculosis [4, 5].

Tuberculosis is more common in females, in this study; the female–male ratio was 2:1. Various recent studies have also reported a higher incidence in females [6, 7].

Cervical lymphadenitis is also the commonest head and neck presentation of tuberculosis followed by laryngeal tuberculosis. Laryngeal tuberculosis was initially involving the posterior larynx because of the patient's recumbent position, but tuberculosis lesions have been reported throughout the laryngeal frame work [8]. The anterior half is twice as often affected as the posterior half [9]. But in our case involves the posterior part of cord vocal. Sputum microscopy has been variously reported to be positive %20 and %70 to %80 cases [9, 10]. If it is negative, a biopsy should be done because the lesions are most often indistinguishable from a malignancy. If the clinicians have a suspicion for tuberculosis, biopsy must be repeated before aggressive surgical procedure was done. In our patient sputum cytology and culture was found negative so direct laryngoscopy and biopsy was done. Biopsy was reported pseudoepithelial hyperplasia and this findings remained tuberculosis so the diagnosis confirmed as tuberculosis by the pathologist [7, 9].

The noncervical and extralaryngeal head and neck tuberculosis is extremely rare. In the nose, the anterior portions of the inferior turbinate and septum are most commonly involved; paranasal sinus involvement extremely rare. Patients presented with nasal obstructions, rhinorrhea, pain and physical examination erythematous submucosal nodules, purulent secretions in nasal cavity were detected. Culture should demonstrate the organism, but these may be difficult to culture and slow growing. In our patient's recurrent cultures were negative and diagnosis was possible by histopathologic examination.

Primary salivary gland tuberculosis is uncommon. Salivary gland involvement is included among the less commonly encountered forms of cervicofacial tuberculosis. Salivary gland involvement is characterized by an indolent, painless enlargement mimicking the behavior of a slow growing neoplasm [11]. Mycobacterium tuberculosis infection of the major salivary glands can occur more commonly through intraglandular lymph nodes or rarely from parenchymal infiltration [12]. The parotid gland is more frequently involved than the others and the disease is usually unilateral. It occurs in one of two forms; acute inflammatory lesions or chronic tumors like lesions. If the inflammatory lesions presents after the diagnosis are correctly made, the treatment is the same as for any acute tuberculosis infection. With the current increasing use of FNAC, the tumoral lesions can often be diagnosed prior to excision, which than may not be necessary [12]. In our patient FNAC was negative and treated with surgery, but the histopathologic examination of

surgical material was showed feature of tuberculosis.

Consequently, extra nodal head and neck tuberculosis histopathologic examination is very important for the diagnosis and planning of therapy options. Our suggestion because of the extra nodal head and neck tuberculosis is see extremely rare and histopathologic diagnosis difficulty clinician and pathologist must be appreciation patients together.

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