

## Nasopharyngeal tuberculosis: A case report presenting with neck mass

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### Abstract

**Introduction:** Tuberculosis is a common infectious disease. Nasopharyngeal involvement is a rare finding.

**History:** We present a case (33-year old female) of known chronic renal failure with primary nasopharyngeal tuberculosis. The only manifestation of disease was bilateral cervical lymphadenopathy. There were no tuberculosis lesions in other organs. Diagnosis was made based on result of pathological examination of biopsy. Improvement was obtained by anti tuberculosis therapy.

**Conclusion:** Tuberculosis must be considered in differential diagnosis of nasopharyngeal mass.

**Keywords:** Tuberculosis, Nasopharynx, Neck mass.

### Introduction

Tuberculosis continues to be a common infectious disease worldwide. There are an estimated 8.5 million new cases annually with an annual death toll of nearly 1.7 million (1). It can affect many organs; the most common is lungs infection. Immunosuppressive conditions, aging, transplantations and HIV infections lead tuberculosis to present atypically and sometimes extra pulmonary manifestations that result in delays in diagnosis and treatment (2). Upper respiratory tract involvement is uncommon and the least common regional involvement is nasopharyngeal region (3).

**Case Report:** A 33-year- old Caucasian lady presented with nontender nonerythmato superior and middle cervical lymphadenopathy from two months ago without fever or sweating (fig. 1).



Fig. 1- Left side neck mass of the patient

She was a known case of chronic renal failure (CRF) and in her past history there was multiple visited and treating with many antibiotics (cephalexin, amoxicillin...) for neck masses with no responses, and gradual enlarging of masses. On admission her temperature was 37.2 c (oral) and finding of physical examinations were normal except nontender nonerythmato bilateral neck mass. Her chest x- ray was normal and without any abnormal findings (fig. 2).

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Fig. 2- Chest x-ray of the patient

Laboratory data revealed WBC: 6300.UL Hb: 4.8g/dL Hct: 17.3% MCV: 63.84 FL MCH: 17.71 Pg MCHC: 27.76% Urea: 147mg.dL Cr: 6.8mg/dL, ESR 1hr: 63mm/hr and proteinuria (++) and W.B.C: 15-20 in urine analysis. All other laboratory tests were in normal range. She denied smoking, risk factors for HIV and recent exposure to tuberculosis. Abdomen and kidneys sonography showed bilateral small nonlobulated kidneys with no other abnormality in abdomen. PPD test was 10mm. Lateral neck x- ray was normal. Neck sonography revealed multiple bilateral solid masses (the largest was 28mm in the right side and 19mm in the left). Fine needle aspiration (FNA) could not clear any thing. Samples harvested from FNA only showed a chronic inflammatory reaction (in pathology exam) and acid- fast bacilli (AFB) finding was negative. After anemia correction (Hb: 10,3g/dL) panendoscopy was performed under general anesthesia laryngobronchoscopy and esophagoscopy was normal, but in nasopharyngoscopy there was a blunt and insignificant small swelling of left lateral side of nasopharynx. Whether it could be assumed pathologic or normal was not clear, but biopsy was obtained by a transoral approach. Pathology showed epithelioid cell granulomas with caseous necrosis and multinucleated giant cells (fig. 3, 4). She was diagnosed as nasopharyngeal tuberculosis. For confirmable Diagnosis excisional biopsy of cervical lymph node was performed, pathologic response

again was tuberculosis. Urine culture in specific environment was negative for tuberculosis. Intensive therapy with anti tuberculosis drugs was started.

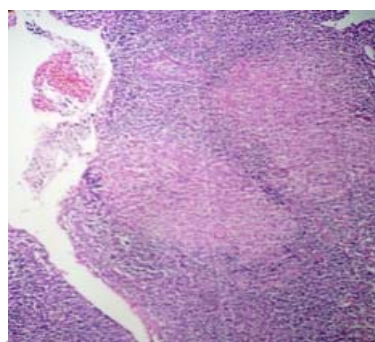


Fig. 3 -Nasopharyngeal biopsy, nasopharyngeal epithelium and formation of epithelioid granulomas with Langhans giant cell (Hematoxylin and Eosin  $\times$  100)

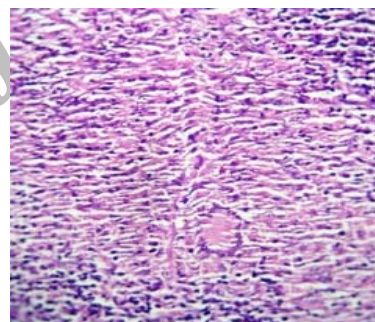


Fig. 4 -Nasopharyngeal biopsy, epithelioid granulomas with Langhans giant cell (Hematoxylin and Eosin  $\times$  400)

### Discussion

Isolated Upper airway tract involvement by tuberculosis is uncommon and nasopharynx is one of the least common regions of involvement (3). It's involvement needs to complete examination of other organ and Immune system. Without associated lungs disease, nasopharyngeal tuberculosis can be either a result from immunodeficiency or no, but the later is a very rare finding. There are a long list of disease, drugs and conditions that result in immunodeficiency perhaps HIV infection, transplantation, congenital immun- osuppressive conditions, and chemotherapy

are the major causes of immunodeficiency but there are some minor causes of this situation like chronic renal failure (CRF). Our patient was a known case of CRF and severe anemia due to a chronic disease with an associated iron deficiency anemia. In kidney sonography there was a small bilateral nonlobulated kidney. Urine culture for tuberculosis in specific environment was negative. Perhaps, CRF induced immunodeficiency results in unusual presentation of tuberculosis in the form of nasopharyngeal tuberculosis.

Nasopharyngeal tuberculosis presenting symptoms are cervical lymphadenopathy (most common) hearing loss, tinnitus, otalgia, nasal obstruction, post nasal drip (4-6), and few reports of only snoring or diplopia (3) or osteomyelitis of clivus (7). Srirompotong et al reported 23 patients with pathologically confirmed nasopharyngeal tuberculosis. The most common symptom was cervical lymphadenopathy (91.3%). Common locations of nodes were superior and middle In this group of patients pulmonary

involvement was found in 8 patients (4). Tse GM et al reported 17 cases of nasopharyngeal tuberculosis with a female predominance (13 women and 4 men). Most common presentation was enlargement of cervical lymph nodes (53%) followed by hearing loss (12%). Duration of symptoms ranged from 1 week to I years (mean: 16week) only one patient had pulmonary involvement (5). In these two series of patients, nasopharyngeal tuberculosis usually occurs without pulmonary or systemic involvement. In Eng HL et al report also there was a female predominance (12 women, 2men) and most common symptom was cervical lymphadenopathy and majority of patient had no lung or systemic involvement(6).

Nasopharyngeal tuberculosis is uncommon but resemble cancer presenting as a nasopharyngeal mass and cervical lymphadenopathy. Differentiation from carcinoma on clinical examinations is difficult, necessitating histological evaluation of biopsy of nasopharynx.

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## خلاصه

**تظاهر اولیه توبرکلوز نازوفارنکس با توده گردنی، گزارش مورد و مرور مقالات**

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**مقدمه:** توبرکلوز همچنان عفونتی شایع در ناحیه خراسان به شمار می آید. درگیری تنهای نازوفارنکس یافته ای ناشایع است اما می تواند بدخیمی را تقلید نموده و به صورت توده نازوفارنکس و لنفادنوپاتی گردنی تظاهر نماید.

**معرفی بیمار:** بیمار زن ۳۳ ساله و مورد شناخته شده نارسائی مزمن کلیوی، که تنها تظاهر بیماری لنفادنوپاتی دوطرفه گردنی بود. آزمون آسیب شناسی نمونه به دست آمده از نازوفارنکس در جریان پان اندوسکوپی حاکی از توبرکلوز نازوفارنکس بود. آزمون آسیب شناسی نمونه گردنی نیز توبرکلوز گزارش شد. درگیری همزمان ریوی یا دیگر ساختارهای بدن وجود نداشت. بهبود با درمان ضد توبرکلوز به دست آمد.

**نتیجه گیری:** نقص ایمنی ناشی از نارسائی مزمن کلیوی در بیمار فوق منجر به تظاهر غیر معمول توبرکلوز گردید. توبرکلوز می باید در تشخیص افتراقی توده های نازوفارنکس قرار گیرد.

**واژه های کلیدی:** توبرکلوز، نازوفارنکس، توده گردنی