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Tuberculous lymphadenitis of the neck: Case series

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Abstract

Tuberculous lymphadenitis is the most common form of extra pulmonary tuberculosis and cervical lymph nodes constitute the most common site of involvement. The proportion of extra pulmonary patients has been increasing for the last two decades.
Presented are 3 consecutive female patients aged 32, 50, and 68 years that presented to a surgical unit of the University of Calabar Teaching Hospital, Calabar, Nigeria. Two patients presented with lesions located in the anterior triangle of the neck, while the third had bilateral lesions located in the posterior triangle of the neck. All were referrals without prior diagnosis of tuberculosis. Diagnosis was by cytology and histology. Notable associations were miliary tuberculosis and anaemia.
Provision of appropriate and effective prevention modalities, diagnostic facilities, and effective surveillance from the primary to the tertiary health facilities for early detection and treatment of the disease is advocated.

Keywords: *Neck, seronegative patients, tuberculous lymphadenitis*.

1 Introduction

Tuberculous peripheral lymphadenitis hitherto known as “Scrofula” is a form of manifestation of disease caused by the mycobacterium organism [1]. The incidence of mycobacterial lymphadenitis has increased along side with the increase in the incidence of mycobacterial infection worldwide and the highest burden of the disease is found in Asia and Africa [2. 3]. Peripheral lymphadenitis is seen in nearly 35% of extra pulmonary tuberculosis (TB) which constituted about 15-20% of all cases of TB [2]. Cervical lymph nodes are the most common site of involvement and reported in 60-90% of patients with or without involvement of other lymphoid tissue [2]. Diagnostic and therapeutic challenges constitute management problems as it mimics other pathological processes and yields inconsistent clinical and laboratory findings [2]. In patients with or without systemic symptoms and signs, chest radiograph is required to confirm or rule out pulmonary TB, diagnosis may be difficult at times necessitating biopsy [2, 3]. We report our recent experience with 3 consecutive human immunodeficiency virus (HIV) seronegative patients with tuberculous cervical lymphadenopathy seen a surgical unit in 4 consecutive months.

2 Case reports

2.1 Case report 1

A-32-year old female farmer presented in the surgical out patient department (SOPD) with a recurrent left sided upper anterior neck swelling of 6 months duration. This mass noticed 8 months ago was excised in a private facility and no histology sought then. It recurred 4 weeks after, on this occasion; presented to a secondary health facility and was referred to the SOPD. Post excision, this very progressively increased in size until presentation. She admitted to a history of loss of weight, but no history of fever, chronic cough, drenching night sweats, or contact with people with

chronic cough. She stays with husband and five children, the last still being breastfed and had no history of swelling on any other part of the body. There was no history of dysphagia, odynophagia, dysphonia, or difficulty in breathing.
Examination revealed a middle-aged female in relative good health, with a firm, non-tender mass located on the anterior border of the upper third of the right sternomastiod muscle measuring 5 x 4cm with a scar in the overlying skin. It was mobile and was more prominent when the sternomastiod muscle was tensed, Fig.1a. Chest and abdominal exanimation were unremarkable. Examination of the throat was also unremarkable.
Investigation results were: Full blood count, hemoglobin 12.8g/dl, white cell count 7.2 x 10^3/ul: neutrophils- 59%, eosinophils- 10%, lymphocytes- 31%, ESR- 40mm/hr., retroviral serology (RVS) I and II were negative. Urinalysis was normal, indirect laryngoscopy revealed no abnormality. Chest X-ray revealed multiple, small, rounded/nodular shadows in the lung fields, no pleural effusion- consistent with a diagnosis of miliary TB, Figure 1b. Fine needle aspiration cytology (FNAC) revealed macrophages and a few multinucleate giant cells as well as mature lymphocytes. Impression was consistent with tuberculous granulomatous inflammation, Figure 1c.
A diagnosis of right upper cervical tuberculous lymphadenitis with miliary TB was made and patient was subsequently referred to the endemic disease unit to commence anti-TB treatment and follow up.

2.2 Case report 2

A 50-year old female teacher presented at our facility, as a referral from a secondary health care center with a 2-week history of low anterior neck swelling following a neck surgery done for a neck mass of 1-year duration. The sample was sent for histologic assessment. Seven days after the surgery, she observed a soft swelling on the lower part of the anterior neck. Prior to surgery, the patient explained that the swelling was firm, painful, and reddish. There was no history of fever, chronic cough, excess night sweats, contact with people with chronic cough, obvious weight loss, or other swellings on any other part of the body. There was no history of dysphagia, odynophagia, dysphonia, or difficulty in breathing, history of cold or heat intolerance, change in appetite or bowel habits.
Examination revealed a calm woman in good health. There was a swelling in lower part of anterior neck; which did not move with protrusion of the tongue and swallowing. It measured 5cm x 4cm with a transverse post op scar over it painted with gentian violet (GV), Fig. 2a.The swelling was cystic with a well-defined edge, not tender, but fluctuant. The upper right border of the swelling was a firm mass about 2 x 1cm, not tender, with limited movements in 2 planes and not attached to skin .Chest and abdominal findings were not significant.
Investigation results were; FNAC yielded sero-sanguineous fluid grossly, while cytology revealed inflammatory cells predominantly mature lymphocytes and occasional neutrophils and haemorrhage in the background. Neck ultrasound scan (USS) was suggestive of thyroglossal cyst. Fasting blood sugar was 4.5mmol/L. FBC: PCV-34.4%, WBC-8.6x10^3/uL, neutrophils -46%, lymphocytes-48% , eosionophils-0.6%. Platelet count was 291 x 10^3/ul. RVS I and II negative and urinalysis was normal.
Two weeks after presentation in the course of investigations, the cystic mass ruptured spontaneously discharging sero-sanguineous fluid with areas of inflammation. She also developed productive cough that was acid-fast bacilli (AFB) negative. Chest X-ray requested revealed patchy/ill-defined opacities in the right apex with impression of PTB. Histopathology result of the sample taken at the secondary care revealed extensive areas of necrosis with mixed inflammatory cellular infiltration up to the subcutaneous adipose tissue, Fig. 2b. Occasional Langerhans type giant cells seen, (Fig. 2c). There was surrounding fibrocollagenous tissue and skeletal muscle without atypia. No thyroid tissue or cyst seen- granulomatous inflammation probably TB.
She was then commenced on anti-Tb drugs and follow up at the infectious disease hospital, with marked improvement on subsequent clinical visits.

2.3 Case report 3

A 68-year female referred from a peripheral health centre with a history of multiple blood transfusions following a 4-month history of re-current low-grade fever, 3-month history of cough and a 2-week history of generalized body weakness.
At presentation at our facility, she was admitted by the hematology unit for work up and definitive care. History revealed that the fever was not associated with chills and rigors. The cough was productive of whitish sputum, with no associated haemoptysis, drenching night sweats, or prolonged contact with persons with chronic cough.
Examination revealed a chronically ill woman with severe pallor, afebrile, anicteric, with bilateral multiple cervical lymphadenopathy in the posterior triangle of the neck. Nodes were spherical, firm, not tender, mobile, and not adherent to surrounding tissues, Fig. 3a.
Significant investigation results included WBC 28.5 x 10^3/uL, Hemoglobin 5.1mg/dL, ESR 156mm/hr, CXR – impression: Pulmonary Tuberculosis, Pneumoconiosis, sputum stain for acid-fast bacilli (AFB) x 3 was negative. Bone marrow aspiration yielded a mixed film of hypo cellular bone marrow, erythro-myeloid hypoplasia, lymphopoiesis with

abnormal forms, an assessment of suppressed bone marrow function likely TB infiltration. Retroviral serology (RVS) was negative.
A working diagnosis of tuberculosis in background of Lymphoma/leukaemia was made.
Based on the above our surgical service was invited to perform a cervical lymph node biopsy, in which histology revealed Tuberculosis, Fig. 3b.
She was then commenced on anti-TB drugs, with remarkable improvement. The endemic disease unit is presently following her up.

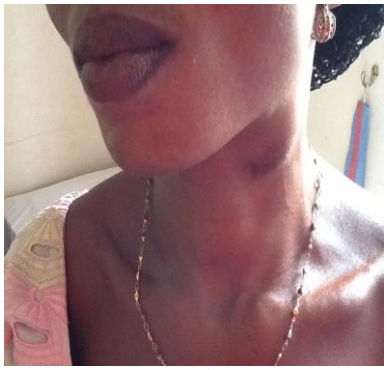

Fig. 1a: Clinical photograph left cervical lymphadenopathy

Fig.1b: Chest radiograph miliary tuberculosis

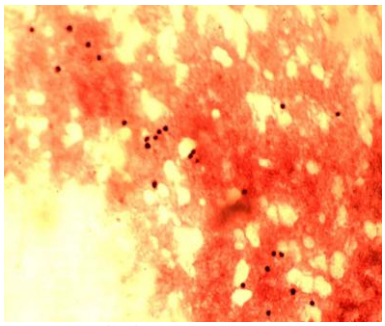

Fig. 1c: Cytology of left cervical lymph node, inflammation

Figure 2a: Clinical photograph lower anterior neck mass post-excision

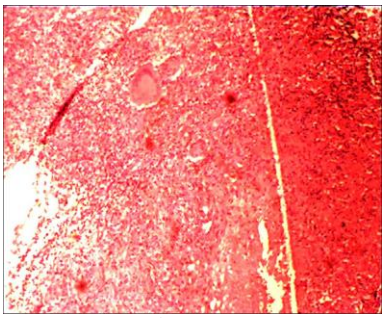

Figure 2b: Granulomatous inflammation (Tuberculosis) H&E x 40

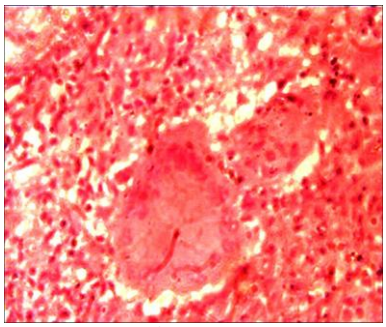

Figure 2c : Granulomatous inflammation (Tuberculosis) H&E x 100

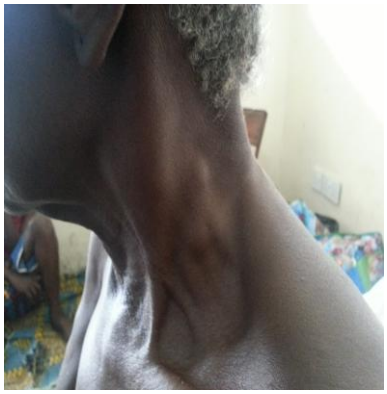

Fig. 3a: Clinical photograph of lymph nodes in the left posterior triangle of the neck.

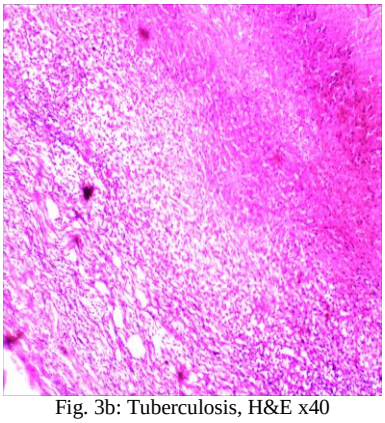

Fig. 3b: Tuberculosis, H&E x40

3 Discussion

The proportion of extra pulmonary cases of TB, with their principal subset lymphadenitis has increased, however the overall rates of pulmonary tuberculosis in the United States have continued to decrease [1]. A new component has been introduced to the epidemiology of tuberculosis with the advent of HIV infection with extra pulmonary TB including lymphatic TB being more common [4, 5]. Our recent experience with 3 cases of extra pulmonary TB with cervical lymphadenopathy in non-HIV patients seen within 4 months is reported and may be in keeping with the reported increase in extra pulmonary TB in recent years [3, 6].

Clinical manifestations are variable, and diagnosis may be challenging as typified in the reported cases. Case 1 presented with an upper cervical lymphadenopathy associated with miliary TB, Figure 1a, &b, diagnosed in the course of investigation in a non-HIV patient. Let it be noted that this patient lives with her husband and five children all at risk of infection. Tuberculous lymphadenitis usually presents, as a slowly progressive, painless swelling of a single group of nodes, in 85% of cases involvement is unilateral with the cervical chain involvement as the commonest [1]. This concurs with our report as we recorded two out of the three patients with unilocular lesions (anterior triangle of the neck) and the third bilateral in the posterior triangle of the neck. Other reports confirmed cervical lymph nodes as the commonest type of peripheral lymphadenopathy [7, 8]. Rates of systemic symptoms vary depending on the geographic origin and case selection, we did not record any convincing systemic symptoms in a patient, however all the patients had evidence of concomitant pulmonary TB as shown on their chest radiographs, this is reported to be found in 18-42% of patients [1].

Tuberculous lymphadenopathy is reported in a study to be rare above the age of 45 years with women more affected than men [4, 9]. All our patients were females; however, 2 patients were above 45 years in keeping with another study that stated that the lesion though common in the 2nd decade might affect patients of any age [2].

Peripheral tuberculous lymphadenitis is a local manifestation of the systemic disease. It may however occur during primary TB infection, because of reactivation of dormant foci or direct extension from a contiguous focus [2]. All our patients had evidence of pulmonary pathology including miliary TB, (Figure 1b), as evident on chest radiographs.

In no patient was the diagnosis of TB made prior to referral from the peripheral health facilities an indication of poor diagnostic facilities and ineffective surveillance where one exist. The resultant effect is the perpetuation of infection with the attendant adverse effect on human productivity and the economy.

Cervical lymphadenopathy is a significant mode of presentation of extra pulmonary TB. Chest radiograph would reveal possible pulmonary involvement, Figure 1b. Clinical significance of tuberculous cervical lymphadenopathy is variable and valuable in total patient care. It may present as part of miliary TB or anaemia resulting from tuberculous marrow infiltration, this is in addition to lesion in unusual position in the neck, Figure 2.

There is need to establish appropriate diagnostic facilities and efficient surveillance system for early detection and treatment while preventive measures are strengthened and effectively monitored. The role of health education is pivotal in reduction of morbidity and mortality associated with this disease. Education targeting prevention, early presentation of patients with peripheral lymphadenopathy, and other symptoms of tuberculosis points to the way forward in a bid to eradicate this deadly disease.

References

[1] Fontanilla J, Barnes A, Fordham von Reyn C. Current diagnosis and management of peripheral tuberculous lymphadenitis. Clin Infect Dis 53(6) (2011) 555-562.
[2] Mohapatra PR, Janmeja AK. Tuberculous lymphadenitis. J Assoc Physicians India 57 (2009) 585-590.
[3] Nagalakehmi V, Nagabhushana D, Aara A. Primary tuberculosis lymphadenitis: A case report. Clinical, Cosmetic and Investigational Dentistry 2 (2010) 21-25.
[4] Bem C, Patil PS, Bharucha H, Namaambo K, Luo N. Importance of human immunodeficiency virus associated lymphadenopathy and tuberculous lymphadenitis in patients undergoing lymph node biopsy in Zambia. Br J Surg 83(1) (1996) 75-78.
[5] Canova CR, Kuhn M, Reinhart WH. Problems in the diagnosis and therapy of lymph node tuberculous in HIV-negative patients. Schweiz Med Wochenschr 125(51-52) (1995) 2511-2517.
[6] Adebe G, Derlbew A, Apers L, Abdissa A, Deribie F, Woldermichael K, Shiffa J, Testaye M, Jira C, Bezabih M, Aseffa A, Bekele A, Colebunders R. Tuberculous lymphadenitis in southwest Ethiopia: a community based cross-sectional study. BMC Public Health 12 (2012) 504 (available at http://www.biomedcentral.com/1471-2458/12/504.)
[7] Mandong BM, Nwana EJC, Igun G, Dakum AN. Surgical lymph node biopsies in Jos University Teaching Hospital, Jos, Nigeria. Nig J Surg Res 1(2) (1999) 63-67.
[8] Pindiga UH, Dogo D, Yawe T. Histopathology of primary peripheral lymphadenopathy in North Eastern Nigeria. Nig J Surg Res 1(2) (1999) 68-71.
[9] Olu-eddo AN, Omoto CE. Diagnostic evaluation of primary cervical adenopathies in a developing country. Pan African Med Journal 10 (2011) 52 (available at http://www.pan African med-journal.com/content/article/10/52/full/