CASE REPORT

Unusual presentations of tuberculosis – A case series

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Received 10 February 2016; accepted 8 July 2016
Available online 27 July 2016

KEYWORDS
Tuberculosis; Extra pulmonary; Lymph nodes; Larynx; Parotid

Abstract Tuberculosis (TB) is commonly found in developing countries. Lung is predominantly affected while extra pulmonary tuberculosis (EPTB) is rarely encountered. The clinical features of EPTB can be non-specific that mimics other diseases and is usually misdiagnosed. Thus, it is very important to be aware and be highly suspicious of EPTB infection especially in endemic area. We share 3 cases of different uncommon presentations of head and neck TB, which involved larynx, parotid salivary gland and cervical lymph node. The diagnosis was made by histopathological examination and positive Acid Fast Bacilli (AFB) smears. They were successfully treated with anti-tuberculosis treatment.

1. Introduction
Tuberculosis (TB) is a common granulomatous disease caused by Mycobacterium tuberculosis, which primarily affect lungs in about 80 % of cases.1 Extrapulmonary TB (EPTB) is defined as TB of organs other than lung.

TB is a common disease worldwide especially in developing countries. Approximately, 8.8 million new TB cases have been reported globally with 1.1 million mortality among non-HIV cases and 0.35 million among HIV-positive patients in 2010.2 TB has been a major health problem in Malaysia, which leads to high morbidity and mortality.2 In Malaysia, about 10% of TB cases were among the immigrant population, particularly from high TB burden neighbouring countries.3 Around 10–11% of EPTB cases were notified at a tertiary level chest clinic.4 In addition, about 14% of pulmonary tuberculosis patients were concomitant with extra pulmonary involvement.5

The most common forms of EPTB in Malaysia are TB lymphadenitis, bone and joint TB and miliary TB.5 TB lymphadenitis is the commonest form of EPTB and mainly affects cervical part of the lymph nodes.6,7 In Otorhinolaryngology, head and neck TB cases have been reported to involve cervical lymph nodes, middle ear, larynx, pharynx, paranasal...
The sign and symptoms of EPTB vary, depending on the organs involved.\textsuperscript{8}

2. Case 1

A 13-year-old boy presented with one-month duration of a painful right neck swelling. He denied constitutional symptoms such as fever, loss of weight and loss of appetite. There were no obstructive symptoms such as dysphagia, odynophagia, change of voice or stridor. Furthermore, there was no history of night sweat, chronic cough and TB contact. On physical examination, there was a right level II neck swelling measuring 3 cm × 4 cm, firm, mobile, non tender, no skin colour changes and not attached to the skin. The erythrocyte sediment rate (ESR) was 75 mm/h. Mantoux test was positive with 25 mm diameter reading. Chest radiograph was normal. Needle aspiration of the swelling which revealed pus was done and sent for AFB, culture and sensitivity (C&S) but the result was unsatisfactory smear. After completing the one-week course of oral antibiotics, the swelling became fluctuant. He underwent an incision and drainage of right neck swelling and pus sent for AFB smear and C&S. Eventually the specimen (pus) for AFB was positive (2+). The culture showed positive to \textit{Mycobacterium tuberculosis}. He was diagnosed as tuberculous lymphadenitis and treated with anti TB drugs. During intensive phase within 2 months, he took oral AKuriT-4 (Isoniazid 75 mg + Rifampicin 150 mg + Pyrazinamide 400 mg + Ethambutol 275 mg) 3 tablets daily with Vitamin B6 20 mg daily (OD) and followed by maintenance phase of oral Isoniazid 300 mg OD, Rifampicin 600 mg OD and Vitamin B6 20 mg OD. After completion of 6 months of anti TB treatment regime, he was well and asymptomatic.

3. Case 2

A 65-year-old male presented with dysphagia, odynophagia and hoarseness for one-month duration. He also complained of cough and weight loss. However, he denied of night sweat, fever and tuberculosis contact. The laryngoscopic examination revealed ulcerative lesions with whitish patches over the supraglottic area (Fig. 1). The arytenoid and vallecula were oedematous. There was no palpable neck node. The initial tuberculosis work-up and HIV serology tests were negative. He was treated as acute supraglottitis with intravenous antibiotic, systemic steroid and trial of antifungal treatment. Despite being on medications, the symptoms were not resolved. The repeat laryngoscopy after a week showed extension of the whitish patchy lesions, which involved the epiglottis, arytenoid, vallecula, false cord and aryepiglottic fold. The vallecula was oedematous. Flexible nasopharyngolaryngoscopy (FNPLS) was done and biopsy of the epiglottic tissue was sent to histopathological examination. The AFB stain result revealed positive (3+). The ESR was 29 mm/h. Chest radiograph was normal. However the repeated sputum AFB was positive (2+). He was referred to respiratory team and started on anti-TB medications. The follow up was done after completing treatment of anti TB for 9 months. He had taken daily oral HRZE regime (Isoniazid 300 mg, Rifampicin 600 mg, Pyrazinamide 1250 mg and Ethambutol 1200 mg) and Vitamin B6 20 mg OD for 2 months duration during the intensive phase followed by 7 months of the maintenance phase by taking oral Isoniazid 300 mg, Rifampicin 600 mg OD and Vitamin B6 20 mg OD. There were no more complaints of constitutional and local symptoms as well. Repeated FNPLS showed normal laryngeal appearance.

4. Case 3

A 65-year-old lady, with underlying diabetes mellitus and hypertension presented with left pre-auricular swelling for a five-day duration. It was associated with redness and pain over the left pre-auricular area. The swelling was extended to left pinna, left supra-auricular and left post-auricular region. There was minimal pus discharge noted from left pre-auricular sinus. She denied chronic cough, fever, loss of weight, appetite and TB contact. On examination there was a diffuse, tender, fluctuant area over the left pre-auricular region with minimal pus discharging fistula over the left parotid (Fig. 2). Facial nerve was intact. There was no palpable neck node. Incision and drainage of the left pre-auricular lesion was commenced under local anaesthesia. The pus smear was positive for AFB (2+). Her ESR was not raised. The sputum AFB was negative and chest radiograph was normal. She was treated as parotid tuberculosis and started anti TB treatment, which was oral AKuriT-4 4 tablets OD and Vitamin B6 20 mg OD in intensive phase for 2 months, followed by oral Isoniazid 300 mg OD, Rifampicin 600 mg OD and vitamin B6 20 for 7 months. She had completed 9 months of treatment and been asymptomatic since then.

5. Discussion

Approximately about 15% EPTB of head and neck region has been reported.\textsuperscript{10} About 35.6% presented with lymph node TB, followed by 27.4% laryngeal TB, 13.7% oropharyngeal TB, 12.3% with salivary gland tuberculosis, 4.1% with TB of paranasal sinuses and aural tuberculosis, and the least is 2.7% with skin tuberculosis in the head and neck region.\textsuperscript{1} Nasopharyngeal TB is rare which encountered less than 1% of upper respiratory involvement.\textsuperscript{11} Moreover, an extremely uncommon
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In our case, the TB lymphadenitis affected a younger-aged patient with involvement of unilateral cervical node at jugulodigastric region. Similarly, there was a negative history of constitutional symptoms. The Mantoux test was positive and ESR was raised however the FNAC was inconclusive. As the abscess was formed, the incision and drainage was done due to failed aspiration. He was diagnosed as TB lymphadenitis after pus for AFB smear showed positive result.

TB larynx is the second commonest ORL manifestation after TB lymphadenitis.\(^6\) It is usually presented with active PTB, sputum smear positive about 90–95%.\(^9\) Laryngeal TB can be spread from the lower airway or directly spreads along the airway.\(^20\) The age group that has been reported from young adults to elderly people\(^21\) but it is common between 5th to 6th decade and is predominant in males.\(^22\) Dysphagia, odynophagia and hoarseness are typical presentations of laryngeal tuberculosis. It may be accompanied by constitutional symptoms such as night sweat, lost of weight.\(^20\) Majority of patients manifested ulcerative appearance over multiple site of the larynx.\(^23\) The finding of laryngeal TB is reported as oedema, ulceration or nodular appearance.\(^24\) Predominant site is supraglottic larynx and easily mimic laryngeal tumour.\(^25\) Previous reports mentioned that the majority of laryngeal TB involved posterior larynx.\(^18\) Chen mentioned the true cord is the commonest site of TB larynx followed by false cord and epiglottis. Besides malignancy, the appearance also may mimic chronic laryngitis and laryngeal candidiadiasis.\(^26,27\)

Similarly in our case, the patient was an adult male who presented with typical laryngeal TB symptoms. Constitutional complaints were not his chief complaint. Nevertheless, it was difficult to distinguish from other differential diagnosis. Despite negative result in initial TB screening, high suspiciousness of TB and malignancy still need to be ruled out, as the symptoms did not improve with medications. Finally, laryngeal TB was confirmed from laryngeal biopsy with concomitant pulmonary involvement.

The salivary gland TB is a very rare entity. Most of the TB salivary gland involved the parotid gland followed by the submandibular gland.\(^7\) The parotid TB equally affected females and males.\(^27\) In addition it usually occurs between 30 to 50 years of age.\(^7\) Mostly the common presentation of the parotid gland TB is localized swelling that results from infection of intra-capsular or peri-capsular lymph nodes.\(^28\) Moreover, it may present as an acute sialadenitis with diffuse gland enlargement or pre-auricular fistula or an abscess. Differential diagnosis of parotid TB can be malignant lymphoma, chronic lymphadenopathy, sialosis, Sjogren's syndrome and acute or chronic suppurative parotitis.\(^29\) Diagnosis of parotid gland TB can be from clinical presentation, FNAC, contrast-enhanced CT scan and histopathological examination. From the CT scan, the features of parotid TB is the presence of multi-loculated enlargement with nodal lucency and smooth, thick-walled rim. However, in recent years, FNAC is more acceptable and plays an important role of diagnosis.\(^28\) There is no role of surgery in the management of parotid TB.\(^28\)

Our third case was initially diagnosed as pre-auricular abscess. Thus, she was managed by incision and drainage. There was no imaging done because the swelling was superficial and sinus opening noted. Finally the result turned out to be parotid TB as the pus sent for smear AFB was positive.
She was diagnosed as primary parotid TB without pulmonary involvement.

EPTB may present with or without pulmonary lesion. In our case series, the laryngeal TB patient also had pulmonary involvement. Meanwhile the TB lymphadenitis and parotid TB cases were free from lung pathology. It is very challenging because of the unusual presentation of TB that can give similar appearance of head and neck malignancies, in non infective and infective pathological conditions. Therefore, normal chest radiograph and ESR, negative Mantoux do not rule out EPTB. A positive mycobacterial culture and histopathological appearance is the main stay investigation to diagnose EPTB. Other than that, mycobacterial smear also a main stay diagnosis of TB. However, the smears to detect AFB are often negative, and contrary to our cases of parotid and cervical TB were diagnosed by AFB smear positive. The main treatment for EPTB is still anti-TB regime. All EPTB is treated with anti-TB chemotherapy for a minimum of six months.

6. Conclusion
Extra pulmonary TB is rare compared to the pulmonary counterpart. However, the presentation is not unusual that can mimic other entities. Hence, it is very important to have a high index of suspicianse to rule out TB, as this disease is a curable disease. Late diagnosis or untreatable TB will lead to high morbidity and mortality.

References