Introduction

Tuberculosis (TB) is a widespread infectious disease in the world caused by Mycobacterium tuberculosis which often affects the lungs. 10% of extrapulmonary TB involves head and neck regions[1]. Upper respiratory tract involvement is uncommon, represents 1.8%, and nasopharyngeal tuberculosis (NPTB) is rarer (0.1%) even in the endemic areas. We would like to share our encounter in managing these cases which provides a comparison in their clinical presentation, radiological and endoscopic features.

Case Presentations

70-year-old female complained of multiple right neck swelling for two months. She denied any nasal or constitutional symptoms. Multiple cervical lymph nodes palpable over right level 3 and 5. TB work up were negative. Nasoendoscopy showed normal nasopharyngeal mucosa (Fig 1). Punch biopsy was taken from the fossae of Rosenmuller (FOR) due to high incidence of nasopharyngeal carcinoma (NPC). Computed tomography (CT) of neck showed normal findings over bilateral FOR. Histopathology examination revealed caseating granulomatous lesion, epithelioid cells, Langhan’s giant cells with occasional foci of pale eosinophilic necrosis.

25-year-old lady presented with nose blocked and rhinorrhea for 2 months. Nasoendoscopy showed adenoids hypertrophy, post nasal drips with yellowish discharge (Fig 2). Patient was treated as rhinitis with nasal spray and decongestants. The nasal symptoms remained despite on medical therapy. Bilateral nasopharyngeal tissue biopsy revealed features of a chronic granulomatous inflammation with caseating lesion but the ZN stain is negative.

33-year-old female, known case of NPC who have completed chemotherapy and radiotherapy in year 2002, complained of persistent yellowish nasal discharge for 6 months. No cervical lymph nodes. Nasoendoscopy noted fullness over the left nasopharynx (Fig 3). CT neck (Fig 4) revealed an ill-defined enhancing soft tissue over the left pharyngeal mucosa space with midline and basipharnoid invasion, highly suspicious of tumour recurrence. Histopathology of left nasopharyngeal tissue biopsy revealed granulomatous inflammation with presence of acid-fast bacilli from Ziehl-Neelsen (ZN) stain.

Discussion

Both NPC and TB are common diseases in Sarawak. Very rare to have a patient with both pathologies. NPTB seems more predominant in women with two peaks of frequency, between age of 15-30 and between 50-60 years. The patients infected may be free from nasal symptoms or may happen in a NPC case. The most common symptom is high jugular cervical lymphadenopathy (50 to 90%), followed by nasal obstruction, snoring, rhinorrhea, otorhrea, reduced hearing, tinnitus, and otalgia. Endoscopy findings varied from normal mucosa to an evident mass, adenoids or swollen appearance, post nasal discharge, ulcers and leukoplakic areas. It is caused by primary infection from Waldeyer’s ring, hemogenous spread, or direct inoculation from pulmonary TB. In NPC patient, high dose of radiotherapy (60 to 74Gy) causes local damage to the nasopharynx, resulting breakdown of the mucosal barrier and a localized immunodeficiency or susceptibility[2].

Gold standard for diagnosis is a positive Mycobacterial smear and culture but it’s difficult in nasopharynx due to low concentrations of the bacilli. Histopathology remains as helpful diagnostic tool. A typical histopathological features for NPTB is caseating granulomatous inflammation with multinucleated giant cells of Langhans’ type and foreign body giant cells, with or without necrosis. Tissue biopsy can also demonstrate chronic granulomatous inflammation with positive ZN staining. Antituberculosis therapy was commenced for the patients and showed good treatment outcome.

Conclusion

Chronic granulomatous changes of nasopharynx after radiotherapy in NPC cases can be caused by tuberculosis. The variation in findings proves that it is important to have a high index of suspicion in order to get an accurate early diagnosis.

References