Tuberculosis of the thyroid gland: a case report

Extrapulmonary tuberculosis may have different clinical manifestations and may be difficult to diagnose compared to pulmonary tuberculosis. Caseous foci frequently occur in lymph nodes, bone and prostate gland but remain undetected in the absence of clinical symptoms [1]. The thyroid gland has been rarely reported to be involved by tuberculosis, and most cases have antecedent pulmonary tuberculosis [2,3]. In recent years, although an increased frequency of pulmonary tuberculosis has been noticed in association with HIV infection, no prominent increase in the involvement of the thyroid gland has been reported [2]. Herein, an HIV-negative patient with tuberculosis of the thyroid gland is reported.

A 59-year-old woman was admitted to our hospital due to diabetic foot ulcer and recently noticed thyroid enlargement. The patient had a history of diabetes for 15 years. On physical examination, the pulse rate was 92/min, fever was 37.2 °C and blood pressure was 140/90 mmHg. There was a 2 × 3 cm non-tender nodule on the left lobe of the thyroid gland. The cardiopulmonary and abdominal examination was normal. There was a diabetic ulcer on the right lower extremity. On laboratory testing, the white blood cell count was 6800/mm^3, hematocrit was 42.6%, platelet count was 249 000/mm^3, erythrocyte sedimentation rate was 72 mm/h, C-reactive protein was 76 mg/L, and blood urea nitrogen, serum creatinine and liver enzymes were normal. No abnormality was found on protein electrophoresis. There was a slight proteinuria. The thyroid function tests were as follows: free T3, 3.81 pmol/L; free T4, 19.22 pmol/L; sensitive thyroid-stimulating hormone (TSH), 1.65 mIU/mL. Anti-microsomal (M) and anti-thyroglobulin (TG) were negative. Thyroid ultrasonography revealed a 24 × 29 mm hypoechogenic cystic nodule within the left lobe. Thyroid scanning showed decreased regional uptake in the left lobe. Fine needle aspiration was performed, and inflammatory cells, epitheloid cell granulomas and giant cells were detected. No bacteria were seen on Gram stain, and there was no growth on routine microbiological culture. Ziehl–Neelsen staining was negative for acid-fast bacilli (AFB), and the material was cultured on Löwenstein–Jensen medium. In the third week, the culture of aspirate for AFB yielded growth of *Mycobacterium tuberculosis*. Chest X-ray and thorax tomography were normal. Isoniazid 300 mg/day, rifampicin 600 mg/day, pyrazinamide 1500 mg/day and ethambutol 1500 mg/day were administered. The patient's thyroid lesion disappeared during the 3-month follow-up period.

Tuberculosis of the thyroid gland is a rare entity. In their cases, Graham and Rankin reported the incidence of tuberculosis of the thyroid gland as approximately 0.1% in partial thyroidectomy specimens [4]. In the majority of patients, the diagnosis was based on histopathologic findings rather than bacteriologic evidence. Between 1900 and 1983, Berger et al. identified 21 cases of mycobacterial involvement of the thyroid gland based on the criteria of bacteriologic evidence [5]. Thyrotoxicosis, subacute thyroiditis, thyroid abscess and thyroid enlargement mimicking cancer were found to be the basic clinical presentations in reported cases, and the majority of symptoms comprised dysphonia, dysphagia, dyspnea, and, rarely, laryngeal nerve paralysis due to the expanding gland [2]. Tuberculosis of the thyroid gland might be primary or occur in association with tuberculous infection of the adjacent tissues. In our case, we did not find any other foci for tuberculosis.

In conclusion, tuberculosis of the thyroid gland should be kept in mind in patients with non-tender, cold nodules. Fine needle aspiration is a rapid, simple and effective diagnostic method for tuberculosis of the thyroid gland.

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Microbiological investigation of an outbreak of acute gastroenteritis in Niger State, Nigeria

An outbreak of fatal gastroenteritis that swept rapidly through Niger State, Nigeria, occurred in the first 2 months of 1995, during the *Ramadan*, or Islamic fasting period. The index case came from neighboring Kebbi State and visited a border village, where he fell ill. A number of villagers subsequently contracted the infection and, like the index case, died. By the time that a relief team was dispatched to the village, all its surviving residents had fled, and in the process spread the infection across villages in the north and east of the state and to the capital,

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