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Case Report

Coexistence of microfilaria and chronic lymphocytic thyroiditis: a rare case report

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ABSTRACT

Filariasis is a common health problem in tropical countries of Southeast Asia. The commonest site of involvement is the lymphatic system where the adult worms can remain viable for long periods. Though the patients can remain asymptomatic, the clinical presentation with hydrocele, fever, localised swelling and/or lymphedema are commonly seen. Localization of the parasite at various other sites like breast, lungs, and thyroid have been uncommonly described. We report a case of an elderly female who presented with a large anterior neck mass associated with a recent history of change in voice. Radiological investigations revealed a soft tissue mass in the neck along with multiple lesions in the thyroid which were suspicious of malignancy. Fine needle aspiration cytology, however, revealed microfilariae coexisting with chronic lymphocytic thyroiditis. This case highlights the importance of critical screening of cytology smears to identify the parasites at unusual locations. A correct diagnosis on a simple and inexpensive investigation like fine needle aspiration cytology can help in administering appropriate therapy at the earliest and avoiding unnecessary interventions.

Keywords: Microfilaria, Thyroid, FNAC

INTRODUCTION

Filarial infection is a common public health problem in tropical countries of Southeast Asia. The disease is endemic in the Indian subcontinent with areas like Uttar Pradesh, Bihar, Jharkhand, Andhra Pradesh, Orissa, Tamil Nadu, Kerala, and Gujarat showing high infestation rates.[1] Wuchereria bancrofti, Brugia malayi, and Brugia tumori are the commonest nematodes causing the disease. The lymphatic system is the primary site of affliction, and breast, epididymis, spermatic cord, lungs, are uncommonly involved.[2] Over the years, few cases have been reported in the thyroid. Herein, we present an uncommon case of a large anterior neck mass that on aspiration cytology revealed chronic lymphocytic thyroiditis with coexisting microfilariae.

CASE REPORT

A 94-year-old lady from Bihar, India was referred to our tertiary care hospital with complaints of anterior neck swelling for 2 years, associated with a change in voice for 2 months. There was no history of dysphagia, fever, or weight loss. On clinical examination, her general condition was fair. On local examination, a soft to firm diffuse swelling was noted over the anterior neck measuring approximately 10×7 cm (Figure 1a). The central part of the swelling showed some movement with deglutition. Her routine investigations including thyroid profile were normal. Ultrasonography of the neck revealed a large, ill-defined heterogeneous, hypoechoic mass in the right posterior triangle of the neck measuring 4.8×4.9 cm with increased vascularity. Bilateral thyroid glands were enlarged with multiple calcific foci and

hypodense solid lesions, the largest measuring 2.8×2 cm (TIRADS IV). Contrast-enhanced CT neck showed a heterogeneously enhancing soft tissue mass, measuring 10.3×9.2×9.3 cm on the left side of the neck, extending medially, and abutting the thyroid gland with loss of fat planes. The thyroid was enlarged with multiple calcific foci and few hypodense lesions, likely colloid nodules. A presumptive clinical diagnosis of malignancy was considered.

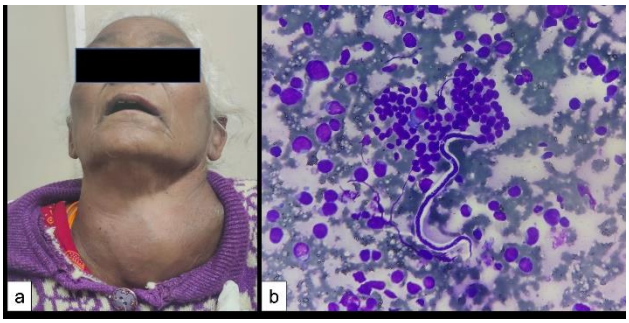

Figure 1 (a): Photograph of anterior neck swelling in an elderly female; clinically suspected as malignant; (b) cytology smear from thyroid aspirate showing thyroid follicular epithelium with impinging lymphoid cells and microfilaria of *Wuchereria bancrofti* (MGG, 400x).

Fine needle aspiration cytology (FNAC) was performed by multiple passes in the thyroid and left side of the neck using a 23-gauge needle. Smears were fixed in alcohol and stained with Papanicolaou (Pap), while the air-dried smears were stained with Giemsa stain. Smears from the thyroid swelling were cellular and showed few sheets and clusters of benign-appearing follicular cells with numerous reactive lymphoid cells and foci of thin colloid in the background. Lymphocytic impingement in the follicles was noted focally. On critical examination, microfilariae of *W. bancrofti* were identified that displayed the presence of a sheath, the posterior end of the body was curved and lacked somatic nuclei (Figure 1b). The FNAC diagnosis of chronic lymphocytic thyroiditis with microfilariae infestation (Bethesda category II) was offered. Smears from left-sided neck swelling showed predominantly blood and proteinaceous material along with few microfilariae of *W. bancrofti.* A final diagnosis of parasitic infestation with *W. bancrofti* was given.

DISCUSSION

The lymphatic system is the primary site of involvement by adult filarial worms from where microfilariae are released into circulation. Involvement of the thyroid by microfilariae is uncommonly reported. The majority of cases documented in the literature have been incidental findings. The commonest co-existent pathology reported in the thyroid is colloid goitre.[3] Few cases have been described wherein thyroid filariasis was diagnosed in conjunction with malignancy, particularly anaplastic carcinoma and undifferentiated carcinoma.[4,5] In the present case, microfilariae were incidentally identified in the background of chronic lymphocytic thyroiditis. A similar case has been reported by Khare et al.[6] Chowdhury et al suggested that microfilariae can get lodged in the thyroid vasculature and rupture of these vessels can release the microfilariae into the thyroid parenchyma.[2] Presence of microfilariae is generally associated with a variable inflammatory reaction comprising of neutrophils, eosinophils, lymphocytes and histiocytes.[7]

In India, *W. bancrofti* and *B. malayi* are the commonly prevalent species which may be differentiated from each other on the basis of the morphology of their microfilariae. Microfilariae of *W. bancrofti* are characterised by a sheath, which is much longer than the body of the larva, and the tip of the tail is devoid of nuclei. Microfilariae of *B. malayi* are smaller in size, possess rigid curves in the body, and the nuclei extend up to the tip of the tail.[8] The present case is worthy of note because the patient presented with a large neck mass and a history of change of voice; thus she was clinically suspected of having a neoplastic lesion, however, the aspirate demonstrated microfilaria in the background of chronic lymphocytic thyroiditis, both of which can be managed conservatively.

CONCLUSION

This case reiterates that FNAC is an important diagnostic modality to identify filarial infestation at unusual sites like the thyroid. Though rare, dual pathologies can exist in a lesion. The present case highlights that careful screening of cytology smears can promptly identify the parasite, following which appropriate antifilarial therapy can be administered at the earliest and morbid complications of the disease can be averted.

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