

**Case report:**

**A rare case of microfilaria in thyroid aspirate**

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**Abstract**

Filariasis is a major health problem in the Indian Subcontinent. Due to its nocturnal periodicity it may be difficult even to demonstrate in the blood. In heavy parasitic load they may appear in the blood, urine with chyle and at times in scrotal aspirates. It is very rare and unusual to find microfilaria in thyroid aspirate.

This case report of presence of microfilaria in thyroid aspirate suggest that careful screening is important for thyroid lesions as patients may present with thyroid enlargement other than usual thyroid lesions.

**Key words:** microfilaria, thyroid, FNAC

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**Introduction**

Among other tropical diseases, filariasis is a major public health problem in the African and Asian subcontinent. It is transmitted by the *Culex* mosquito and is caused by two closely related nematodes: *Wuchereria bancrofti* and *Brugia malayi*. Filariasis affects the lymphatic system with a predilection for lower limbs, retroperitoneal tissues, spermatic cord, and epididymis<sup>1</sup>. Filaria can affect other sites rarely. Though single or small number of cases on microfilariaemia at various sites as lymphnode, breast lump, bone marrow, bronchial aspirates, nipple secretion, pleural and pericardial fluid, ovarian cyst fluid and cervico vaginal smear have been reported, thyroid is another site from which microfilaria has been isolated. So far only nine case reports are available. It is estimated that approximately 600 million people are living in areas endemic for lymphatic filariasis Southeast Asia Region. There are approximately 60 million people infected in the region and approximately 31 million people have the clinical manifestation of this disease<sup>2</sup>.

Here we present a patient with filariasis of the thyroid detected by Fine needle aspiration cytology (FNAC) of thyroid gland.

**Case Presentation**

A 36-year-old female presented with a slowly enlarging painless swelling of thyroid gland over a period of two years. Clinically patient had no other complain. Thyroid function was normal. On examination a 3×3 cm, firm, non-tender thyroid nodule was palpable over left lobe. No cervical lymph node was palpable. Fine-needle aspiration of the thyroid nodule revealed blood mixed colloid. Slides were stained with Leishman-Giemsa stain.

Microscopic examination of the smear showed the presence of microfilarial larvae with few mono-layered clusters of benign follicular cells in the background of blood mixed colloid. The microfilariae had blunt head and pointed tail with a sheath projected slightly beyond the extremities of the embryo (Fig.1). Somatic cells or nuclei appeared as granule in the central axis of the body and were absent at the tip of the tail. All the features distinguish *M. bancrofti* from the other sheathed larvae.

**Discussion**

Filariasis is a global problem. It is also a major health problem in India<sup>3</sup>. This patient also presented as euthyroid state similar to the findings of Kundu

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et al, Kar D.K. et al and Mohanti et al<sup>4,5,6</sup>. In no case reported previously suspect of microfilaria was made. All the cases were sent for FNAC for diagnosis of other primary lesions similar to our case<sup>2</sup>.

The clinical manifestations of lymphatic filariasis may range from asymptomatic microfilariasis to hydrocele, lymphangitis, lymphadenitis with high-grade fever (filarial fever), and lymphatic obstruction<sup>7</sup>. In our case it presented with asymptomatic thyroid swelling, similar findings have been noted by study of Mohanti et al and Vargese et al<sup>6,8</sup>. Microfilaria of thyroid has never been suspected in any case reports including those cases where high eosinophilia has been reported<sup>2</sup>.

There are eight identified species of filarial parasite among them only three (i.e., *W. Bancrofti*, *B. Malayi*,

and *Brugia timori*) are known to cause lymphatic filariasis . These are sheathed species. In India microfilariae bancrofti and microfilariae malayi are the commonly prevalent species. Species diagnosis is made on the basis of morphology of the microfilaria. Microfilariae of *B. Malayi* are smaller than those of *W. bancrofti*, possess secondary kinks instead of a smooth curve, and unlike the latter, the tip is not free of the nuclei<sup>9</sup>.

### **Conclusions**

In conclusion, filariasis of the thyroid is an uncommon condition and need a high index of suspicion and careful screen of FNA smears especially in asymptomatic patients belonging to endemic zones, so as not to miss this incidental finding especially in patients from endemic areas .

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