Microfilaria in Thyroid Aspirate

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Abstract

In India, filariasis is endemic and a major health problem. We report a case of a young Indian female who presented with a swelling in front of neck, which moved with deglutition and not associated with signs or symptoms of hypo- or hyperthyroidism. The aspirate report was suggestive of microfilaria, with a microfollicular focus in a colloid nodule. Impression given was of a follicular neoplasm with microfilaria infestation. Having had this report, the blood sample was sent for microfilaria which confirmed its presence. Diethyl-carbamazine (DEC) was given for fourteen days and repeat aspirate didn’t reveal microfilaria or follicular neoplasm.

Keywords: thyroid, microfilaria.

Introduction

Lymphatic filariasis is a major health problem in tropical countries including India.1 Due to the nocturnal periodicity of species endemic in India, it is difficult to find microfilariae in blood and fine-needle aspirates despite its high incidence in this zone. So far, about ten cases describing microfilaria in thyroid aspirates have been reported in literature.2 We report this case of microfilaria in solitary thyroid nodule of a euthyroid female patient to emphasize the significance of careful screening of smears in endemic areas. In our case, the finding of microfilariae in thyroid aspirate was purely coincidental as there was no suggestive clinical history.

Clinical History

A 22-year-old female presented with a swelling in front of the neck, which moved with deglutition since 1 month. It was not associated with fever, weight gain/loss, fatigue, malaise, heat/cold intolerance, swelling in feet or anywhere else in the body, loss of hair or change in voice.

Clinical Examination

On examination, patient was conscious, oriented, with pulse of 88/minute, blood pressure of 120/78 mm Hg on presentation with normal respiratory, cardiovascular, abdominal and neurological examination. On local examination, patient had right sided solitary non tender nodule of approximately 2cm x 2cm in front of the neck. The swelling moved with deglutition. The overlying skin was normal and there were no enlarged lymph nodes. There was no associated bruit and both the carotid arteries were palpable. There was no retrosternal extension of thyroid gland. Pemberton sign was absent. There were no eye signs present.

Investigations

The peripheral blood showed a total leucocyte count of 10,400/mm³ with 8% eosinophils. The absolute eosinophil count was 830/mm³. Erythrocyte sedimentation rate was 9 mm in first hour. Peripheral smear showed microfilaria of W. bancrofti, count 76/mL of blood. Bone marrow aspiration was done which showed particles with increase in eosinophils and its precursors along with increase in mature plasma cells.

USG thyroid showed a well-defined relatively hyperechoic nodule of size 15 x 10 x 15 mm with hypoechoic rim showing central as well as peripheral vascularity in right lobe of thyroid.

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There was evidence of multiple subcentimetric lymph nodes noted in level II, III, IV in left side and in level II on right side. Fine needle aspiration cytology showed a microfollicular focus in a colloid nodule. Impression given was of a follicular neoplasm with microfilaria infestation (figure 1). Thyroid profile: fT3: 4.3 pg/ml, fT4 1.2ng/dl, and TSH was 2 mIU/l.

Rest of the biochemistry profile was normal.

Treatment

The patient was advised diethyl-carbamazine (DEC) 100 mg three times a day along with antipyretics and antihistamines for 14 days. A repeat FNAC and blood sample sent after the treatment did not show any evidence of microfilaria or follicular neoplasm.

Discussion

Filariasis is a major public health problem in tropical countries, including India. The disease is endemic all over India, especially in the states of Uttar Pradesh, Bihar, Jharkhand, Andhra Pradesh, Orissa, Tamil Nadu, Kerala and Gujarat. A majority of infected individuals in filarial endemic communities are asymptomatic. Adult worms live in the lymphatic vessels of the definitive host and microfilaria is released and circulates in the peripheral blood. Cases of microfilaria have been reported from atypical sites like lymph node, pleural and pericardial fluid, breast lump, bone marrow, bronchial aspirate, ovarian cyst fluid, cervicovaginal smears and thyroid. Our case is unique in that the patient presented with solitary thyroid nodule, which showed microfilaria on FNAC similar to the cases reported by Chowdhury et al. In the present case, the patient was an asymptomatic carrier with larvae present in microvasculature of thyroid gland. As proposed by Chowdhury et al. a possible rupture of vessels may have led to hemorrhage and release of microfilaria in the thyroid and the subsequent histiocytic reaction which resulted in the development of a solitary thyroid nodule. This case is worthy of note because clinico-radiologically the patient was suspected to have a neoplastic lesion, but the aspirate demonstrated microfilaria. A simple inexpensive procedure like FNAC thus averted the need for surgery.

References