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Case Report

Microfilarial involvement of the neck region: A case report and review of literature

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ABSTRACT

Introduction: Filariasis is caused by parasitic infections, most commonly *Brugia malayi* and *Wuchereria bancrofti*. India is one of the endemic countries for such disease. The usually involved organs are lower limbs and external genitalia. Neck region is rarely involved and only a few cases have been reported in literature.

Case report: We reported such a case where filarial involvement has involved the neck region and reached up to the level of upper cervical vertebra. A huge neck swelling and torticollis were the main presenting features. Diagnosis was confirmed by MRI and live presence of microfilarial parasite in FNAC. The patient responded excellently to antihelminthic drugs. He has been under our regular follow-up and there has been no complication till date.

Discussion: The purpose of this case report was to highlight this rare presentation of microfilaria parasite.

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1. Introduction

Filariasis is caused by microfilaria parasite. *Wuchereria bancrofti* and *Brugia malayi* are the most common parasites.¹ In India, *W. bancrofti* is responsible of majority of cases.² It is a vector-borne disease transmitted by mosquitoes. In human, it presents in various forms of pathology, ranging from asymptomatic to grossly enlarged limbs. Most commonly involved parts are lower limbs. Neck involvement is rare and can present as cervical lymph nodes enlargement.³ We are reporting a case where microfilaria affected neck region with

extensive involvement of soft tissue and reaching up to the cervical spine vertebrae. We did not find any such report, ever mentioned in any published literature till date, to the best of our knowledge.

2. Case report

A 13-year-old boy presented to us with torticollis and huge neck swelling on his right side of neck. The patient also had mild fever for last 1 month. There was no history of any chronic cough or hemoptysis. He had history of decreased

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Coronal Section

Transverse Section

Fig. 1 – Pre-treatment MRI neck (coronal section and transverse section) showing edema of soft tissues on right side, extending up to vertebral bodies.

appetite but no significant weight loss. The patient was admitted and a detailed examination done. On local examination, there was tense swelling and redness of cervical region on right side but without local rise in temperature. There was mild tenderness at occipito-cervical junction. There was no translucency but swelling was compressible. There was no compromise of oral or respiratory airway and no neurologic deficit was noted. The patient was having right-sided torticollis.

X-rays of cervical spine were normal except for sideways bending of the neck. MRI of neck showed a large collection in anterior and posterior triangles of right side of neck, extending from superficial to deep planes from level of C1 and C2 superiorly to the thoracic inlet inferiorly (Fig. 1). Routine blood investigations suggested an increase in eosinophil count on DLC, ESR of 16, and rest was normal. An absolute eosinophil count (AEC) was highly raised (4000 mm^{-3}). The patient was put on skull traction in view of torticollis. A FNAC of swelling was done which demonstrated a microfilarial parasite (Fig. 2). A course of oral Tab. Albendazole 400 mg twice a day for 10 days

and oral Tab. Diethylcarbamazine (DEC) 6 mg/kg/day once a day for three weeks was started. Within 3–4 days, he showed marked reduction in neck swelling as well as improvement of general condition. At the end of one month, a repeat MRI was done which showed minimal residual swelling in muscular planes (Fig. 3). AEC came back to normal level. There was no torticollis and the patient was put on intermittent neck collar and neck muscles strengthening exercise. Now six months have been passed and patient is under constant follow-up and is having normal neck movements without any complaints.

3. Discussion

Filariasis is an endemic disease in India.² It involves various body parts in different forms and presentations, which

Fig. 2 – Microfilaria parasite in FNAC slide.

Fig. 3 – Post-treatment MRI neck (transverse section) showing minimal edema in right side of neck.

includes pulmonary tropical eosinophilia, acute adeno-lymphangitis, acute and chronic lymphadenitis usually involving lower limbs and scrotal swelling. There have been very few case reports involving the neck region.^{3,4} We encountered a case of filariasis involving cervical lymph nodes, reaching up to upper cervical spine. Initial presentation was torticollis to right side. The patient has a very diffuse and large swelling to his right side of neck. We suspected this as a case of tuberculosis of neck region as TB is also endemic in India and cervical lymph node TB may present with these similar features. Radiological investigations including X-rays and MRI showed huge collections extending from subcutaneous tissue to deep up to vertebral bodies of around of C1 and C2. Increased AEC suggested parasitic infection and on FNAC, microfilaria parasite confirmed our diagnosis. FNAC has been found to be a very useful diagnostic adjunct in neck swelling and filariasis.⁵

Management of acute filariasis involves anti-helminthic drugs. We used a course of DEC and albendazole orally and the patient responded dramatically. The skull traction was given initially for the torticollis and to prevent contracture of soft tissues. Intermittent use of a cervical collar along with neck muscle strengthening exercises was advised in recovery phase. A repeat MRI and eosinophil counts performed after one month of treatment were normal. The patient has been in our regular follow-up without any complications till date.

At the end, we conclude that though filarial involvement of neck region and vertebral bodies are rare, a systematic

approach should be taken for a neck swelling and cytological examination such as FNAC should be included. Other diagnostic modalities involve routine blood counts including AEC and CT/MRI of neck. Treatment is directed at etiology and here it was antihelminthic drugs and general care.

Conflicts of interest

The authors have none to declare.

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