Filariasis of the eyelid subcutaneous manifestation in Bangladesh

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ABSTRACT

Purpose: *We report a rare case of the eyelid subcutaneous filariasis in Bangladesh*
Methods: *Through Ocular and systemic evaluation, CT scan of orbit and histopathological analysis plays an important role for diagnosis.*
Results: *An11 yrs girl presented with right periocular swelling, moderate tenderness and the right eye could not be opened for the last 3 days. CT scan of orbit showed diffuse heterogeneous soft tissue swelling in both upper and lower eyelid which was suggestive of preseptal cellulitis. She was improved on conservative management. On clinical evaluation, we found a nodular swelling, firm in consistency and overlying skin was free, fixed to the tarsus in the most lateral part of right upper eyelid. Thyroid function test showed hypothyroidism. She was euthyroid after two months of treatment. Excision biopsy was done and the lesion was round, nodular, solid lesion. Histopathology report reviled filariasis of the eyelid. There were no features of filariasis on systemic evaluation.*
Conclusion: *Filariasis may be found rarely in the eyelid. Painful eyelid swelling in patients should always raise the suspicion of filariasis.*

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INTRODUCTION

Ocular infestation by Zoonotic Filarial worms in humans is a rare occurance[1] and mostly due to parasites in the genus Dirofilaria species, in particular Dirofilaria immitis, D repens, D tenuis, and D ursi. D repens is a natural parasite of carnivores, primarily dogs, foxes, and cats. D repens infections are particularly common and often reported from European countries surrounding the Mediterranean, particularly Italy (168 cases), France (53 cases), and Greece (21 cases).[2,3] Domestic animals like cats and dogs may serve as reservoirs of infection. During a blood meal, mosquitoes ingest microfilaria and they become infective in 10 days. Patients were infested the disease through repeated episodes of mosquito bite. The ocular manifestations of filariasis are elephantiasis of the eyelids, iritis, retinal hemorrhages, or the presence of microfilaria in the lacrimal gland secretion.[4,5] Entry into the anterior chamber may be through cilliary vessels. The World Health Organization (WHO) has identified lymphatic filariasis as the second leading cause of permanent and long-term disability in the world, after leprosy.[5]

Here, we report a case of the eyelid subcutaneous filariasis in Bangladesh. An intact filarial body was extracted from the right upper eyelid subcutaneous tissues of a girl.

METHODS

This study was done in Orbit, Aesthetic, Ocular oncology and oculoplasty services in Bangladesh eye hospital, Dhaka, Bangladesh. Through clinical history, meticulous evaluation, CT scan of orbit plays an important role for diagnosis. Excision biopsy and histopathology confirm the accurate diagnosis. Serological test and Polymerase chain reaction (PCR) are also helpful to diagnose the case.

CASE REPORT

An 11 yrs girl presented with right periocular swelling, moderate tenderness, firm in consistency and the right eye could not be opened for the last 3 days and there was painless swelling of right upper eyelid for last 3 months. CT scan of orbit showed diffuse heterogeneous soft tissue swelling in both upper and lower eyelid which was suggestive of preseptal cellulitis. She was improved on conservative management with intravenous ceftriaxone, anti-inflammatory drugs and others necessary drugs. On clinical evaluation, we found a nodular, firm mass in the most lateral part of right upper eyelid. On evaluation of the patient, we found that patient's IQ was not good enough. We suggested thyroid function test. Only TSH value was high (13 µIU/ml) which is suggestive of hypothyroidism. She was in euthyroid condition (TSH value 2.32 µIU/ml) after two months of treatment. Excision biopsy was

done and the lesion was round, nodular, solid lesion. Histopathology reported that microscopic section show a nodule, the centre of which contain filarial body, surrounded by necrotic material and granulation tissue, which is densely infiltrated with acute and chronic inflammatory cells including eosinophils. Histopathology confirmed the diagnosis that was filariasis of the eyelid. We referred the patient to an internist to find out the features of filariasis elsewhere of the body. There were no features of filariasis on systemic evaluation. The presented case has been diagnosed on the basis of the clinical evaluation and histological examination carried out on a firm nodule detected in the right upper eyelid, furthermore, eosinophilia and an elevated TSH value were present.

Figure 1: Presented as orbital cellulitis

Figure 2: CT scan (axial view) of the orbit shows preseptal cellutis

Figure 3: Tenderness and swelling was reduced after conservative treatment

Figure 4: Before surgery

Figure 5: Round nodular lesion

Figure 6: After 3 days of Surgery

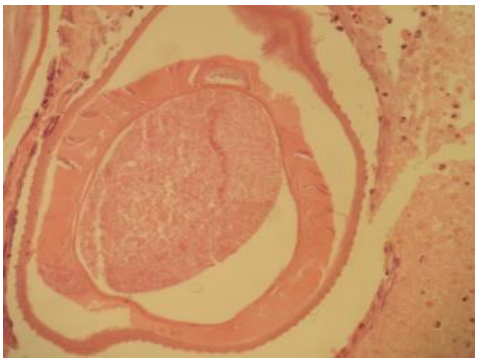

Figure 7: Histopathological photograph shows the filarial body

DISCUSSION

Filariasis involving the eyelid is rare occurrence in our country. This is a first recorded case in our knowledge. In India, The first recorded case of *B.malayi* microfilaria in a patient with uveitis was reported by Anandakanan and Gupta in 1977.[5,6] Rose (1960) reported an unproven case of *B.malayi* adult worm in the anterior chamber of the eye of a man in Malaysia.[7] Rao *et al* reported intravitreal live adult Brugian filariasis from Orissa.[8] A report from Germany presented a case report of Loa Loa macrofilriasis in the eyelid and extracted the worm from the right upper eyelid without serological evidence of microfilaria.[9] A report from Europe was done by Mannino G et al showed Difilaria repens in the eyelid subcutaneous tissue manifestation and the worm was removed from right upper eyelid. [10] A study was done in Italy that showed 2 new cases (one 65 years old man and another was 52 years old woman) of human subcutaneous dirofilariasis in northern Italy.[11] In Europe, an increasing number of ocular cases of parasitic infestations is reported. The major frequency of human cases of dirofilariasis infections could be due to several factors such as an increase in worldwide tourism, international business, and academic visits.[4] Periocular dirofilariasis usually presents as an inflammatory painful mass lesion. The differential diagnosis includes inflammatory pseudo tumor, ruptured dermoid cyst, and infectious abscess. The case reported here unusually presented as a non-inflammatory lid threadlike swelling. Therefore, dirofilariasis should be considered in the differential diagnosis of non-inflammatory mass lesions of the ocular adnexa.[5,11] Ophthalmologists must be aware of these uncommon presentations of parasitic infestation when they consider infections of ocular adnexa. The prognosis in filariasis is good if infection is recognized and treated early. Filarial diseases are rarely fatal, but the consequences of infection can cause significant personal and socioeconomic hardship for those who are affected.

CONCLUSION

Filariasis may found rarely in the eyelid. Painful eyelid swelling in patients should always raise the suspicion of filariasis. Histopathology is the important tool for the confirmation of any types of eyelid lesion. This is the documented first case of filariasis of the eyelid in Bangladesh in our knowledge.

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