Loa loa macrofilariasis in the eyelid: case report of the first periocular subcutaneous manifestation in India

Sayali Bhedasgaonkar · Rahul B. Baile ·
Snehal Nadkarni · Gayatri Jakkula ·
Pratik Gogri

Published online: 2 June 2011
© Indian Society for Parasitology 2011

Abstract We report a case of periocular subcutaneous macrofilariasis as an initial sign of a systemic *Loa loa* infection. Thorough history, eye examination, surgical intervention and parasitological analysis. A periocular adult *Loa loa* worm was extracted from the left upper eyelid of an Indian lady living in Mumbai after presenting to our department with sensation of worm crawling under the left upper eyelid skin. Patient was admitted and was treated with diethylcarbamazine, oral steroids and albendazole with steroid cover under observation. In an era of increasing global travel, this case highlights the importance of direct questioning of previous travel as signs may be nonspecific and transitory. With clinical suspicion of *Loa loa* infestation, initiation of systemic investigation should not be prolonged and early treatment should be started under observation.

Keywords *Loa loa* macrofilariasis · Subcutaneous · Eye lid

Introduction

Loa loa macrofilariasis is a parasitic infection, endemic in the tropical rain forests of Central, Western and Eastern Africa. Within the last few years, due to increasing tourism and international scholarships, more and more evidence of this disease has been seen in various parts of the world, and the pathogenic organism has already been isolated from

many ocular regions such as the conjunctiva (De Decker 1970), the anterior chamber (Satyavani and Rao 1993) and the retina (Beaver 1989) as well as from the subcutaneous periocular region (Chhabra et al. 1989). We present the first patient seen in India with a *Loa loa* affection of the upper eyelid.

Case report

In Dec 2010, a 32 year old Indian woman presented to the department of ophthalmology with a painless vermiform swelling of the left upper eyelid, that she had been noticing intermittently for the past 2 months and sensation of something crawling under her left upper eyelid. Her past medical and surgical history was unremarkable. Examination revealed a crawling movement of threadlike swelling of her left upper eyelid, parallel to and 4 mm above the eyelid margin. Skin overlying the swelling was intact and showed no blister. Both eyes were otherwise normal and had a vision of 6/6. On direct questioning the patient reported a visit to Israel 10 months ago. No swelling was noted on any other part of body. Upon exposure to the slit lamp illumination, a sudden movement of the swelling was noted suggestive of a live worm, and surgical exploration of the lesion was initiated. Under minimal illumination, and after injecting about 1 ml of 2% xylocaine with adrenaline, a 3 mm horizontal skin incision was then made. A worm 9 cm in length was revealed and was extracted in toto (Fig. 1). Parasitologic analysis confirmed the parasite to be an adult female *Loa loa* worm (Fig. 2). No further abnormalities were detected in the anterior and posterior segment of the eye. In patients with high microfilaria load, treatment with diethylcarbamazine alone may be dangerous, as the rapid microfilaricidal action of drug can

S. Bhedasgaonkar · R. B. Baile (✉) · S. Nadkarni ·
G. Jakkula · P. Gogri
Department of Ophthalmology, BARC Hospital,
Anushaktinagar, Mumbai 410206, Maharashtra, India
e-mail: rbb4@rediffmail.com

Fig. 1 Thread like worm being extracted out from subcutaneous tissue

Fig. 2 9 cm long worm removed in toto

provoke encephalopathy, cardiomyopathy, nephropathy and spontaneous pleural effusion. Hence patient was admitted in ICU for starting treatment with diethylcarbamazine and albendazole under steroid and cover.

Comment

Loa loa removal from a human eye was first described in 1770 (Grove 1990). A PubMed search indicates that this is the first published case report of periocular subcutaneous

manifestation of *Loa loa* in India. Frequent eyelid reflexes and the increased exposure to light may contribute to the rarity of a subcutaneous manifestation at this site. There have been various cases of ocular *Loa loa* infestation published in the various journals in the world (Grupp 1975; Jaksche et al. 2004; Stemmle and Markwalder 2005; Werner 1959). In most of these cases, the worm was seen in the subconjunctival space. The majority of patients were African. Systemic subcutaneous *Loa loa* manifestation, especially of the extremities associated with Calabar swellings, is well known in the literature, where involvement of the periocular area is very rare. Immediate surgical intervention should be attempted, even though it is not always crowned with success. With the clinical suspicion of *Loa loa* infestation, initiation of systemic investigation should not be prolonged and early treatment should be started after confirming the diagnosis.

References

- Beaver PC (1989) Intraocular filariasis: a brief review. *Am J Trop Med Hyg* 40:40–45
- Chhabra RC, Bhat S, Shukla SM (1989) Ocular loiasis in a Zambian woman. *East Afr Med J* 66:491–494
- De Decker W (1970) Extraction of *Loa loa* filaria from the subconjunctival space. *Berl Zusammenkunft Dtsch Ophthalmol Ges* 70:96–99
- Grupp A (1975) Klinisches Bild und Therapie der Loa-Loa-Infektion. *Klin Monatsbl Augenheilkd* 167:70–76
- Jaksche A, Wessels L, Martin S, Loeffler KU (2004) Okuläre Beteiligung bei systemischer Loa-Loa-Infektion. *Ophthalmologe* 101:931–935
- Satyavani M, Rao KN (1993) Live male adult *Loa loa* in the anterior chamber of the eye—a case report. *Indian J Pathol Microbiol* 36:154–157
- Stemmle J, Markwalder KA (2005) Loa-Loa-Infektion des Auges. *Klin Monatsbl Augenheilkd* 222:226–230
- Werner H (1959) Demonstration einer mit Schmalfilm festgehaltenen subconjunctivalen Filaria Loa. *Ophthalmologica* 137:160–162 884