



Rare manifestations of parasitic eye disease in children from South India

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Abstract : A 4 year old baby presented with redness, watering and itching in right eye for 4 months duration. Ocular examination showed a chalazion like swelling in the right lower lid, a fibrinous lesion at the back of cornea attached to the endothelium and a granuloma behind iris. Excision of the chalazion like swelling and iris granuloma were done and histopathological examination of these tissues surprisingly showed evidence of a helminth. The boy developed cataract in the right eye and underwent cataract extraction and intraocular lens implantation.

Keyword : parasitic , trematode , granuloma , river water , helminth A 4-year-old boy from kozhicode, Kerala was brought to the hospital by his mother. Mother gave history of recurrent redness, watering and itching in the right eye of her child for four months (Figure 1)



Figure 1

. Child was treated with some eye drops at the local hospital and the details were not known. There was no history of trauma but mother did give a history of using well water to bath her son. History was also significant for recurrent severe itching of the eye and severe red eye after using the well water.

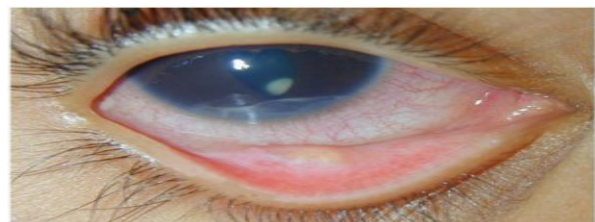


Figure 2

Ocular examination revealed conjunctival congestion and inferior corneal opacity in his right eye. In addition the right eye lower lid revealed chalazion like painless swelling (Figure 2). Slit-lamp examination of the right eye showed episcleral congestion near the inferior limbus. A whitish fibrinous lesion was also noted at the corneal endothelial level at anterior chamber angle between 4 o'clock and 8 o'clock position. In addition, a white solitary nodule was noted behind the iris projecting into the pupil. (Figure 2). Slit-lamp examination of the left eye revealed clear cornea, quiet anterior chamber, clear lens, and normal posterior segment. Further examination revealed a normal fundus, visual acuity of 6/6 in both eyes and normal intraocular pressure in both eyes. A complete systemic examination, including respiratory system cardiovascular system and abdomen were normal. Neurological work up was normal. The child was subjected to complete systemic examination to rule out common known granulomatous diseases including tuberculosis and sarcoidosis. Complete blood count was normal except for a mild increase of eosinophils to 7%. Erythrocyte sedimentation rate was 10 mm/hour, skin test with purified protein derivative were negative. Angiotensin converting enzyme was within normal limits, (49 International units). Stool and urine examinations were also unremarkable. The child was referred to the surgical department for excisional biopsy of the chalazion as well for excision of nodule behind the iris.

After obtaining informed consent, patient was examined by an anesthetist for fitness for anesthesia. Patient underwent granuloma aspiration and chalazion excision. On the table the granuloma which was seen behind the iris was firmly adherent to the lens and lens was showing peripheral cataract. The specimen was sent to pathologist for histopathology examination.

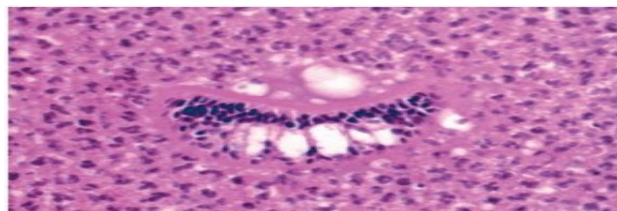


Figure 3

Histopathologic examination of the chalazion revealed a zonal granulomatous inflammation consisting of central purulent material surrounded by epithelioid cells, histiocytes, lymphocytes with eosinophils. The purulent area showed tegument and internal structures suggestive of a helminth (Fig 3). Histopathologic examination of the granuloma seen behind the iris showed similar cellular infiltration consisting of epithelioid cells, histiocytes, lymphocytes with eosinophils.

The patient was started on topical steroids six times a day for a week, then the steroid was tapered. Oral nonsteroidal anti-inflammatory agents were given after surgery.

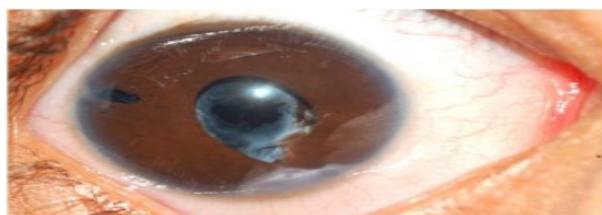


Figure 4

The patient showed resolution of the inflammation in 3 weeks. However the child developed cataract in the right eye and underwent cataract extraction and intraocular lens (IOL) implantation. (Figure 4)



Final vision after IOL surgery was 6/6. Patient is being followed for past 2 years with no recurrence of uveitis and vision remains the same (Figure 5).

Figure 5 Discussion:

Ocular inflammation in children is a potentially vision threatening condition, and it accounts for 5% to 10% of all uveitis patients with an incidence of 4.3 to 6 and a prevalence of 30 patients in 100,000 populations¹. (1)The causes vary widely depending upon geographic, environmental, and socioeconomic factors and upon the prevalence of causative agents. (

2) In this paper we report a rare form of parasitic eye disease that affected a child and successfully treated. In southern India, granulomatous ocular inflammation accounted for one third of the pediatric uveitis cases. Extensive laboratory work up was carried out to rule out tuberculosis, fungus and parasitic etiology. Histopathology and molecular diagnosis confirmed the trematode as the causative agent. Trematode granulomatous anterior uveitis in children was first reported by Rathinam et al from south India (3-5). Histopathological study of sub conjunctival nodules from paediatric population showed necrotizing granuloma, displaying the teguments of trematodes. But these granulomas were seen usually in subconjunctival space, anterior chamber and over the iris. Authors claimed that all these children having only anterior segment involvement and prognosis to be very good after aspiration of the granuloma. In our present case, mother of the child gave history of eye problem only after bathing in well water suggesting a water-borne infection (3). Absence of clear evidence towards tuberculosis and presence of internal structures of a helminth on histopathology confirmed the trematode infestation in our patient as well. Since humans act as accidental hosts, fecal examination will not help in egg identification. In our patient also the stool examination did not help in confirmation. Our patient is the first patient who had the granuloma in posterior chamber. After aspiration and cataract surgery patient is being followed for past three years and there is no recurrence of uveitis. Patient has been advised to avoid using well water for bathing.

Reference:

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