



# Parasitic Eyelid Infection in two Chinese patients



Dr Wong EWN, Dr Ngai JW, Dr Yuen CY  
Department of Ophthalmology, Caritas Medical Centre, Hong Kong SAR

## ABSTRACT

Diagnosis and treatment of parasitic eye infections are often delayed due to its rarity in developed countries and atypical clinical presentation. We describe two cases of pathologically confirmed parasitic eyelid infection initially presented as pre-septal cellulitis of the orbit in two Chinese adult patients. Both cases underwent extensive systemic workup, imaging and excisional biopsy of the eyelid mass for diagnostic purposes and treatment. Satisfactory post-operative outcomes were achieved with no recurrences reported.

## CASE 1

A 74 years old Chinese female with hypertension, impaired fasting glucose and treated thyrotoxicosis presented with right upper eyelid swelling for one month. She reported no recent travel history.

Physical examination revealed erythematous right upper lid swelling with a firm mobile subcutaneous mass located at the medial aspect of the pre-septal area. (Figure 1) Ophthalmic examination was unremarkable.



Figure 1.

Computed tomography orbit with contrast:

- a thickened right upper eyelid with a 0.6x0.9x0.5cm soft tissue nodule along medial aspect of right upper eyelid with mild contrast enhancement
- The globe, extra-ocular muscles and lacrimal glands were unremarkable

White blood cell and eosinophil counts was normal.

She was initially treated with two courses of oral antibiotics (Ampicillin and Augmentin). The swelling reduced however the subcutaneous nodule persisted. Subsequently, a right orbitotomy with incisional biopsy of the subcutaneous nodule was performed under general anesthesia. Histopathology of the mass showed skeletal muscle fibres featuring chronic inflammatory infiltrate and with epithelioid granulomas. Fragments of degenerated parasite laminated cuticle were present in one of the granuloma. (Figure 2). Pathological report confirmed the diagnosis of **parasitic infestation** with **granulomatous inflammatory reaction**. There was no evidence of malignancy.

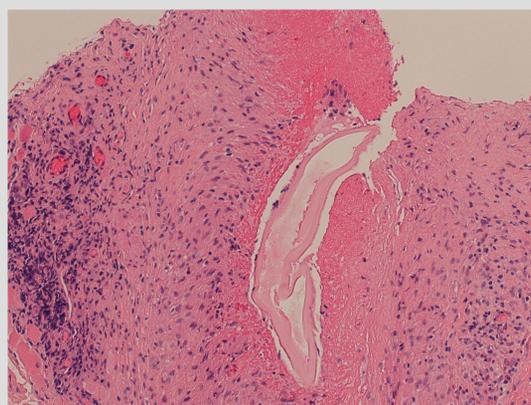


Figure 2.

After the surgery, the right upper eyelid contour was restored with no recurrence of inflammation or masses detected on later follow-up. (Figure 2)

## CASE 2

A 66 years old Chinese male patient with good past health complained of painful right upper lid swelling for one week. Minimal improvement was noted after a course of oral Amoxicillin prescribed by GP.

Physical examination showed right upper lid tender swelling with an underlying 1x1cm firm superomedial orbital mass. (Figure 3) There was no proptosis and extra-ocular movement was full. No signs of intraocular inflammation were demonstrated.



Figure 3.

Computed tomography of brain and orbit with contrast revealed a 1.2x1cm mildly enhancing nodule at medial part of right upper eyelid associated with diffuse swelling of upper lid (Figure 4). No retro-septal extension or intraocular lesions were noted.

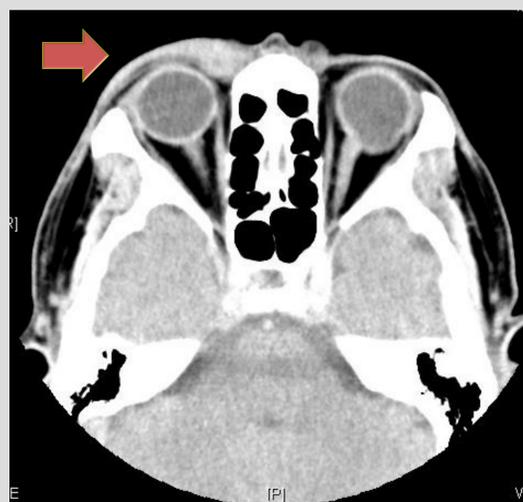


Figure 4.

Systemic work up:

Blood test: normal white blood cell and eosinophil  
Stool: no ova and cyst present

Right orbitotomy with excisional biopsy of the orbital mass was arranged. Histopathology confirmed **parasitic infestation** with presence of **multinucleated giant histiocytes** and granulomatous reaction to dead parasitic organism. The cut section showed 0.2m diameter round to oval parasite with necrotic cuticle and intestinal structure. There was no evidence of malignancy.

Post-operatively, the surgical wound healed well with no significant forehead paresthesia. No recurrence was reported till the patient's last follow-up visit.

## DISCUSSION

- Parasitic eyelid infection remains to be a diagnostic challenge in developed countries as it is not commonly encountered and diagnostic tools may not be readily available in daily clinical settings.
- Most commonly reported species involved in human eyelid infection are *Dirofilaria* and *Leishmania*. The parasites are transmitted from animals to human via vectors like mosquitoes. [1]
- Ocular parasitic infections can involve orbital or subconjunctival or intraocular structures. It often presents as subcutaneous nodules. Orbital infections may result in proptosis, ptosis or diplopia. [2] Systemic features like fever, lymphadenopathy and reactive arthritis are occasionally seen. Only approximately 25% of cases has peripheral eosinophilia. [1]
- Management of parasitic eyelid infection is usually straight forward. Surgical removal with excisional biopsy confirms the diagnosis and serves as a definitive treatment. Systemic anti-helminthic agents are generally not indicated as microfilaraemia is rare. [1]

## CONCLUSIONS

Parasitic eyelid infection is a rare but important cause of a benign eyelid mass. It is often difficult to establish a definitive diagnosis until pathological evidence is available.

Surgical removal of inflammatory mass together with the parasite involved is often sufficient to eradicate the infection which also allow a definitive diagnosis to be made.

Systemic work up is necessary to exclude extra-ocular involvement and guide the use of anti-parasitic agents.

## REFERENCES

- [1] KSC Yuen, MWI Tse, PCL Choi, W-M Chan and DSC Lam, "Unusual presentation of dirofilariasis as a lacrimal mass" *Eye* (2004) 18, 959-960
- [2] Johnson TM, Gilberg S, Robertson S. "Unusual presentation of periorbital dirofilariasis". *Can J Ophthalmol* 1998; 33: 333-335.

## CORRESPONDENCE

Dr Wong Eva WN  
Department of Ophthalmology,  
Caritas Medical Centre  
Email: wongevawn@gmail.com  
Phone: (+852) 9447-4887