EXTERNAL OPHTHALMOMYIASIS (EOM)

Case Report
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ABSTRACT
Ophthalmomyiasis is an ocular condition characterised by presence of live maggots in the ocular tissue. It occurs rarely especially where there is neglect in the management of bacterial ocular infection. It is believed to be a common condition in under-developed world due to poor living and hygiene standard.

This is a case in which a 16-year-old female patient presented at the Solwezi General Hospital Eye Clinic (SGHEC) with ocular foreign body sensation, lower eyelid swelling and tearing. She was referred from a rural health centre with suspected lower eyelid abscess for further management. An incision and drainage (I&D), had previously been performed from the health centre but this did not resolve the suspected abscess.

The patient’s visual acuity in both eyes was normal (6/6). Exploration of the left eye (LE) revealed a larva that was deeply seated in the tissues of the lower eyelid. A diagnosis of preseptal cellulitis secondary to external ophthalmomyiasis (maggot or larva in the eyelid) was made. The larva was carefully removed surgically. The patient’s condition improved within two days of commencement of the topical and intravenous antibiotics.

INTRODUCTION
Myiasis is the infestation of humans and animals with live maggots (fly larvae) of certain flies [1]. Skin is the most common organ of infestation, but larvae have sometimes been removed from the eyes, ears, nose and urogenital although rarely [2]. Ophthalmomyiasis is the infestation of the orbital tissues with fly larvae (maggots) is of three (3) types. In the External Ophthalmomyiasis (EOM) type fly larvae are deposited on the eyelid or ocular surface [3]. The second one is the internal type where fly larvae could penetrate the globe and can be seen in the vitreous cavity or sub retinal space [3]. The most damaging of the species, is the orbital myiasis where the fly larvae get their way to the orbital structure and cause serious damage to the surrounding tissues of the eye [3].

An existing open injury to the surrounding skin of the eye may also cause as easy entry point to the internal eye structures. Treatment of EOM constitutes mechanical removal of the fly larvae after application of a topical anaesthetic agent and use of topical antibiotic-steroidal combination [3]. The symptoms resolve immediately after the removal of the larvae [3].

CASE SCENARIO
A sixteen (16) year old female patient presented to the eye clinic at Solwezi General Hospital, with complaints of painful lamp, tearing, redness and moving foreign object in the lower eyelid of her left eye over a period of two (2) weeks.

The patient did not have any history of systemic or ocular illness. The mother reported that a few days earlier, the girl had sustained a small injury on the affected eye after slipping over in the family goats’ house, but the wound quickly healed. A couple of days later, the patient began to complain of irritation and painful swelling of the eyelid of same eye. She was treated at the health centre for suspected eyelid abscess where partial incision and drainage was performed in an effort to drain out pus, but this did not help resolve the swelling in the eyelid. The patient then was referred to the hospital for further management. Considering the fact that the patient was below age of 18 years, the mother consented for publication of the case report.

On examination, the general condition was fair, febrile (body temperature 38.60C), not pale, not jaundiced and had no respiratory distress. The visual acuity was 6/6 in both eyes. The left eye showed a lot of conjunctival chemosis and slight bleeding from the previous surgical wound which had been performed from the health centre. The cornea and the rest of the anterior segment examination were found normal. Fundus examination did not reveal any larvae in the vitreous both eyes. However, the lower eyelid of the left eye looked infected.

After infiltrating the eyelid with 2% lignocaine and instilling 1% lignocaine, the lower eyelid was gently pulled down and on further exploration of the fornix conjunctiva of the left eye, a single motile creamy white maggot was noticed with its head flicking back and forth. A few drops of 0.5% povidone iodine were applied in the eye and the wound was thoroughly cleaned. A small incision was done to expose the fly larvae from the fornix conjunctival tissue in the lower eyelid. Using the conjunctival forceps, the fly larva (measuring 3 mm) was carefully pulled out, put in saline and sent to the laboratory for identification.

The cornea and the rest of the anterior segment examination were found normal. Fundus examination did not reveal any fly larvae in the vitreous or sub retinal spaces both eyes.

A diagnosis of external ophthalmomyiasis in the lower eyelid of the left was made and the patient was commenced on Gentamycin eye drops and intravenous antibiotics in order to treat preseptal cellulitis and prevent orbital cellulitis. Within five days the patient had improved tremendously and was discharged on topical and oral antibiotics.

DISCUSSION
Ophthalmomyiasis is an infestation of the orbital tissues with fly larvae (maggots) of most commonly sheep and goat nasal botfly hominis of oestridae family (oes trus ovis) and Arthropoda of insecta class.
The patient in this case report fell in the goat house and sustained injury on the left eye. It is possible that infection could have come from the goat droppings in the goat house. These fly larvae (maggots) are ejected in the milky fluid by a female fly while it is in flight. Fly larvae can be deposited on or into the ocular surface of humans and be responsible for benign external ophthalmomyiasis (EOM) [1-3]. On the contrary this was not benign as it was symptomatic, and the patient complained. Occurrences of ophthalmomyiasis are common in rural areas and animal raising community areas [4]. The patient of interest was from a rural community and the family kept goats and sheep for their living. She could have picked the fly larva from the goat house where she had fallen and sustained an eyelid injury.

The causative maggots (fly larvae) for ophthalmomyiasis are usually small translucent or creamy white worms of about 3-5 mm length with brownish or dark heads [4]. The larvae extracted from the patient measured 3mm. The fly larva may have numerous hooks on its belly which are used for crawling through tissue. When the larva infests the preseptal tissue it can sometimes invade the orbital cavity resulting into a lot of damage to the globe [5-9]. In this scenario the globe was not affected.

Among 295 cases described world-wide between 1918 and 2017 110 (37%) occurred in North Africa, 57 (20%) in Middle-east and 31 (10%) in South-Asia. In Europe EOMs are endemic in the Mediterranean basin with sporadic cases in central Europe and elsewhere, accounting for 33% [6,7]. There have been no reported cases from the sub-Saharan Africa [10,11], hence reporting this one.

CONCLUSION
Ophthalmomyiasis is a rare condition in Zambia but may occur especially among rural and animal rearing communities. Patients who may present with lamps on the eyelids or preseptal cellulitis coupled with conjunctival irritation and chemosis of the eye should be carefully screened in order to rule out other conditions such as the one in this case report. However, Ophthalmomyiasis is a treatable disease.
LIST OF REFERENCES