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Orbital Miasis: Complicating Squamous Cell Carcinoma Conjunctiva A Rare Case Report

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Abstract

Miasis refers to invasion into the living tissues of humans and other mammals by the eggs or larvae of flies from the order of Dipteria. The invasive parasitic larvae almost invariably cause massive destruction of orbital tissue especially in neglected patients accompanied by marked inflammatory reactions and secondary bacterial infections. Infestation can be caused by multiple or single larvae. We report a case of 50 yr post menopausal women who was having squamous cell carcinoma of conjunctiva and was a neglected and belonged to low socioeconomic status. The patient ultimately ended with massive orbital miasis..

Keywords: Orbital Miasis; Carcinoma

Introduction

Orbital miasis is very rare worldwide. Miasis is a term first introduced by F. W. Hope. Miai is a Greek word meaning 'fly'. Miasis refers to invasion into the living tissues of humans and other mammals by the eggs or larvae of flies from the order of Dipteria [1,2]. The invasive parasitic larvae almost invariably cause massive destruction of orbital tissue especially in neglected patients accompanied by marked inflammatory reactions and secondary bacterial infections. Infestation can be caused by multiple or single larvae [3]. Nursing staff, medical and paramedic staff should be aware of this condition, particularly in high risk cases like immobile, open wound and skin malignancy patients.

Case Report

50 year old postmenopausal, normotensive, non diabetic, chronic hukka smoker patient comes to the accident and emergency department of SMHS Hospital with a complaint of blood stained discharge from the left eye and worms seen in the same eye (Figure 1). On examination the upper and the lower lids of the same eye were swollen, thickened and hard and could not be closed. The eye ball and the ocular tissue could not be seen. There was blood stained discharge and numerous live active worms in the left orbit. There was active oozing of blood on the left side. Orbital miasis was diagnosed. After going through the records of the patient, we came to know that patient was already diagnosed as a case of left poorly differentiated squamous cell carcinoma of the conjunctiva. CECT head showed soft tissue density mass with no bone invasion. MRI shows 5x4cm extracranial intraorbital mass with intraorbital component adherent to left lateral rectus muscle with left preauricular lymphadenopathy. The staging of tumor was T4 N1 M0. After cleaning and debridement of left orbital cavity the patient was referred back to the parent institution for emergency exentration and radiotherapy.

The maggots were identified as chyrosoma bezziana.

Figure 1: The maggots were identified as chyrosoma bezziana.

Discussion

Ophthalmomiasis is a rare form of eye disease and massive orbital or ocular miasis is even rarer [1,3-6]. Flies are small vingid orthopods of the class insecta. Some are biological or mechanical vectors of protozoal viral, bacterial for helminthic disease. Miasis in humans may be benign to asymptomatic or may result in mild to violent disturbances even death. Orbital miasis is the least common form of ophthalmomiasis.

By going through the literature we found very less cases of orbital miasis. Children and elderly persons or dementia patients who could not adequately take care of themselves are usually the victims. Most reported cases have belonged to the lower class of society being farmers, labours or beggars. In children, gonococcal conjunctivitis and in adult's periocular ulcerated skin cancers may predispose to larval infestation[3]. Orbital miasis occurs when large number of diptherous larvae known as flies invades and destroy orbital contents. Ophthalmomiasis may result in complications ranged from minor ocular ulceration to complete blindness and even death [7]. Common ophthalmomiasis inducing agents are cochhomyia hominivorax, hypoderma bovis, caliphora vomitoria, wohlfartia magnifia and chyrosoma. Bezziana the maggets identified in our patients belonged to C. Bezziana. Diagnosis is based on microscopic examination of the sliced caudal ends of the larvae (preserved in 70% alcohol or formalin). A dichomatous key is used to identify the number of interior spiracet opening and shape of body part [8]. Discharge associated with chyrosoma Bezziana foul smells and bloody.

The main predisposing factor for infestation in our patient was bed of necrotic tissue, provided by squamous cell carcinoma. Other important factors were lack of self care, general ignorance, low socioeconomic status and poor hygiene.

Any skin ulceration like diabetic, neurotrophic and malignant ulcers in the exposed areas in these patients are a risk factor and should be treated [9].

Miasis is not a common disorder in humans and it affects primarily wounds of skin, infection with purulent secretion and blood and body secretions are most common factors that attract flies.

Conclusion

Orbital miasis is a rare disease, which is marked by inflammatory reactions and secondary bacterial infections. Life threatening consequences like intracranial invasion may also occur. Old, debilitated and neglected patients are more prone to such disease. Malignant growths often form scaffolding for such infections to occur.

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