

Pyogenic Granuloma in an anophthalmic Socket Secondary to ill-fitting Prosthesis- Case Report

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Abstract

Pyogenic granulomas are vaso-proliferative inflammatory lesions composed of granulation tissue and commonly occur on the cutaneous or mucosal surfaces. They usually follow trauma or infection. Though these lesions have often been reported on the conjunctiva and orbit following orbital implants or lacrimal plugs, conjunctival involvement following ocular prosthesis has been acknowledged to be rare. We report a case of pyogenic granuloma of the conjunctiva, which developed 45 years later in an anophthalmic socket secondary to ill-fitting ocular prosthesis.

Keywords: anophthalmic socket, pyogenic granuloma, prosthesis

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Conflict of Interest: None

Financial interest: None

Introduction

Anophthalmia is generally an acquired condition. Blinding trauma is probably the most common reason for surgical removal of the eye or its contents. Painful blind eyes, prevention of sympathetic ophthalmia, intraocular tumor or endophthalmitis are all common reasons for acquired anophthalmia. The loss of an eye is a distressful event for both patient and family with impact on an individual's social and professional life. Of particular concern to patients is the cosmetic appearance in the postoperative period.

Hydroxyapatite orbital implants are

commonly used for the anophthalmic socket. Temporary cosmetic painted prostheses placed immediately after removal of the eye or socket surgery are well tolerated and preferred. Various studies have reported occurrence of pyogenic granuloma following orbital implant in a significant number of anophthalmic sockets. We report a case of conjunctival pyogenic granuloma secondary to ill-fitting ocular prosthesis in an anophthalmic socket.

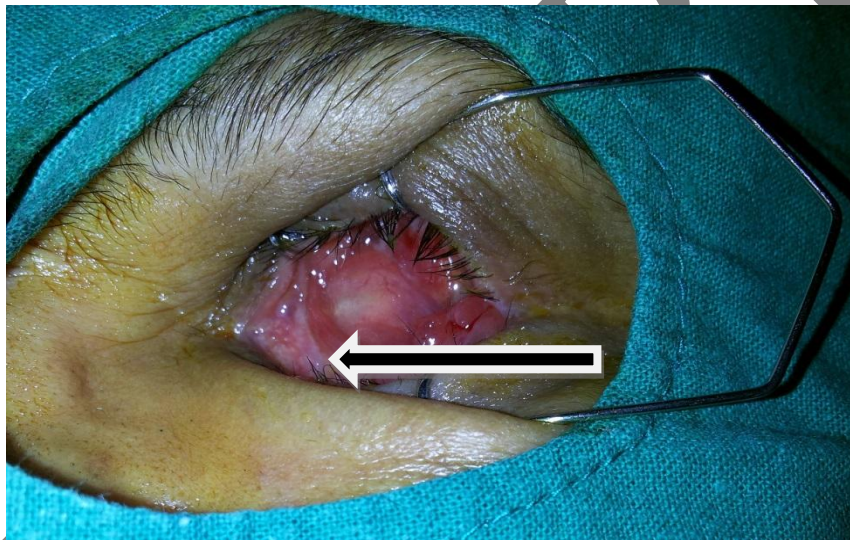
Case report

A 50 year old patient presented to us with complaints of discharge and

growth in the left eye observed for a month. He also revealed the frequent fall of left prosthetic eye and mild pain whenever he tried to fit it back for the last 2 years. He gave a history of undergoing left eye evisceration surgery 45 years ago after an ocular trauma. Following this he was given a prosthetic eye. He never visited any ophthalmologist nor did he

change the prosthetic eye for the past 45 years. On examination there was left lower fornix shrinkage and ill fitting prosthetic eye in situ. On removal of shell there was copious amount of discharge and a pinkish polypoidal mass arising from left lower palpebral conjunctiva measuring around 1×1cm(Figure 1).

Figure 1: Showing left anophthalmic socket with lowerpalpebralconjunctival pyogenic granuloma



Patient was advised not to wear the shell and was put on topical antibiotic eye drops for a week following which he underwent excision biopsy under local anaesthesia. Histopathology of the mass showed polypoidal tissue lined by stratified squamous epithelium with area of ulceration. Sub epithelium showed granulation tissue comprised of dense

lymphoplasmacytic infiltrate and numerous blood vessels along with foreign body giant cells suggestive of pyogenic granuloma (Figure 2, 3). After 2 weeks patient underwent socket reconstruction. After 6 weeks he was given a new prosthetic eye and was asked to come for regular follow up.

Figure 2: Photomicrograph showing tissue lined by stratified squamous epithelium with sub-epithelial inflammatory infiltrate. (H& E, 100X)

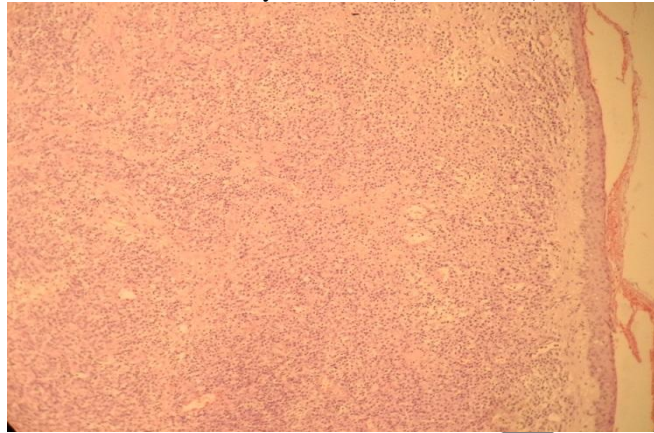
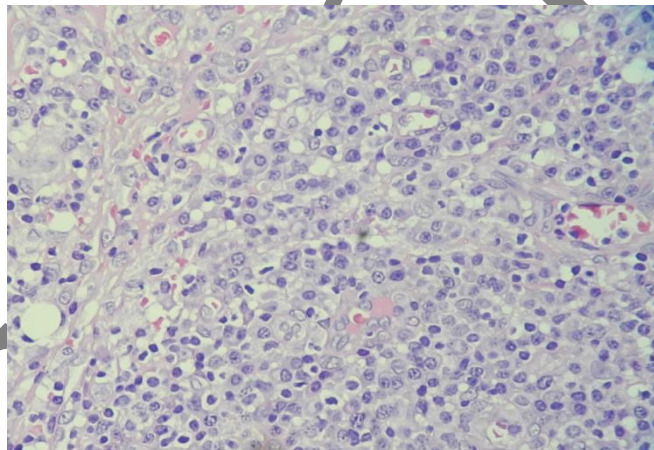


Figure 3: Photomicrograph showing lympho-plasmacytic infiltrate and capillary sized blood vessels. (H& E, 400X)



Discussion

Pyogenic granulomas were originally described by Poncet and Dor in 1897. The term is a misnomer since it contains neither the inflammatory (purulent) exudate nor the typical epithelioid giant cell reaction characteristic of granulomatous inflammation. They are lesions composed of granulation tissue similar to that seen in wound healing.

Granulation tissue consists of proliferating connective tissue (fibroblasts and fibrocytes) and newly formed capillary channels. Acute and chronic inflammatory cells are often interspersed between the fibrovascular elements^{1, 2}. The common site of occurrence is on the skin of the face and extremities and usually follows trivial trauma or infection, although spontaneous occurrence has been reported.³

They may also occur on the mucosal regions such as gingiva, hard palate, cheek, tongue, and the nasal cavity. Pyogenic granuloma has received scant attention in the ophthalmic literature. In the eye, it has been reported to arise from the upper lid, lower lid, medial canthus, lateral canthus, upper and lower palpebral conjunctiva and in part of an exenterated socket, following ocular implants and lacrimal pugs.^{4,5,6} This condition may also occur in palpebral conjunctiva secondary to ill-fitting ocular prosthesis like in our case and may mimic squamous cell carcinoma.

An artificial eye (eye prosthesis, ocular prosthesis) is a solid, seamless, non-permanent, removable-implant (FDA class 1 device) that serves to replace the lost orbital volume when the living eye is either shrunken or surgically removed. The visible surface of the prosthesis is designed to appear very lifelike, attempting to match the companion eye sclera and iris colour. The modern ocular prosthesis should be inert and easily mouldable and PMMA is currently the material of choice.⁷

The fit of a prosthetic eye or scleral shell will deteriorate over time. The average life of an ocular prosthesis is 5

years. The most common reasons for prosthetic eye replacement is poor fit due to orbital fat atrophy and implant migration resulting in recession of the prosthesis with the corresponding narrowing of the palpebral fissure. In addition, the comfort of the prosthesis is often affected. With a scleral shell, continued phthisis or other changes in the globe may be contributing factors.

Conditions of socket contracture, lagophthalmos, ptosis, lower lid laxity, entropion, ectropion, implant exposure and other conditions can often be improved or minimized with the appropriate prosthetic modifications. In some cases, enlargement or reduction of the prosthesis is indicated and in other cases, replacement is the appropriate choice. The movement of the prosthetic should be evaluated compared to the seeing eye. Poor movement can be due to fornix abnormalities, enophthalmos or poor prosthetic depth. The prosthetic can then be removed and evaluated. If the prosthesis is thick it may be placing pressure on the lower lid and could be camouflaging low orbital volume. Also it should be noted whether the prosthetic is smooth and clean. Any socket or prosthetic abnormality should be addressed. The

socket should be evaluated for inflammation, excessive mucous, giant papillary conjunctivitis under the upper eyelid and pyogenic granulomas. The foveal depth should be noted, if the superior fornix is excessively deep or if the fornices are not well defined. The tissue over the implant should be examined for thinning, fistula or a defect. Lastly, on palpation of the socket, the presence or absence of an implant and the position of the implant should be noted.

Discharge is a common complaint of the anophthalmic patient, and there can be many underlying causes. The most common etiology is giant papillary conjunctivitis. Other conditions that may cause discharge are poor prosthetic fit, extruding implant, excessively deep fornices or nasolacrimal duct obstruction and pyogenic granuloma as reported in our case.

If the anophthalmic socket patient presents with discharge, socket should be examined carefully for the presence of pyogenic granuloma like in our case report and also look for any socket abnormality. Excision biopsy gives the diagnostic as well as therapeutic certainty. This should be followed by

socket reconstruction and regular follow up.

Conclusion

Whenever the patient is given a ocular prosthesis, educating the patient regarding the proper care of the prosthesis, common signs and symptoms of the ill-fitting prosthesis is very important. Ophthalmologist should insist on regular follow up of these patients and prosthesis should be changed at regular interval. Any socket abnormality should be addressed immediately to prevent further complications.

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