Case Report

Indian Journal of Pathology: Research and Practice
Volume 6 Number 3, July - September 2017 (Part-I)
DOI: http://dx.doi.org/10.21088/ijprp.2278.148X.6317.30

Corneal Pyogenic Granuloma–A Case Report with Review of Literature

Punam Prasad Bhadani*, Satish Kumar, Suryakant Nirala***, Shuchismita****

*Additional Professor and Incharge **Senior Resident ***Tutor, Department of Pathology, AIIMS, Patna, Bihar 801507, India.

Abstract

Background: Pyogenic granuloma is an excessive proliferation of granulation tissue that usually develops after minor trauma or surgery. Ocular involvement usually happens on the external surface and cornea is rarely involved. The objective of our report is to describe the clinico-pathological feature of this rare disease and give insight on clinical features that help in the diagnosis. *Case Report:* A 62 year old male came with the complain of loss of vision and pain, who had fleshy growth of one week duration on the right eye after development of pain and redness in ophthalmology department. Slit lamp examination showed vascularized central corneal mass with surrounding stromal infiltrates. The mass was excised, and histopathological examination confirmed pyogenic granuloma of the cornea. *Conclusion:* Pyogenic granulomata of the cornea are rare. However, the present case illustrates the importance of considering benign inflammatory causes in the differential diagnosis of a corneal mass lesion so as to avoid unnecessarily aggressive therapeutic intervention.

Keywords: Pyogenic granuloma; Cornea; Lesion.

Introduction

Pyogenic granulomas are vasoproliferative, inflammatory lesions composed of granulation tissue, which occur on cutaneous or mucosal tissues, often arising secondary to other processes such as trauma or infection [1]. Ocular pyogenic granulomas are usually found on the external surface of the eyelid or the palpebral conjunctiva [2]. Conjunctival pyogenic granulomas are not rare, but corneal involvement is very unusual and the probable reason could be cornea's avascularity [3] lead to problems in the differential diagnosis of corneal masses. A constant clinical finding of these reported corneal lesions is either an epithelial defect in the presence of corneal neovascularization and ocular surface disease or chronic chemical and/or mechanical irritation. Abnormal corneal vessels are the source of the newly formed proliferating capillaries. It can rarely complicate corneal surgeries and because of its rarity, it could be misdiagnosed as ocular malignant lesion and could end up in destructive surgeries like enucleation [1-3].

We report an unusual case of a pyogenic granuloma of the cornea secondary to traumain a 62 year old male.

Corresponding Author: Punam Prasad Bhadani, Additional Professor and Incharge, Department of Pathology, AIIMS, Phulwari Sharif, Patna, Bihar 801507.
E-mail: bhadanipunam@gmail.com

(Received on 19.01.2017, **Accepted on** 07.02.2017)

Case Report

A 62 year old male was presented with pain and loss of vision of right eye in the outpatient department of Ophthalmology, All India Institute of Medical Sciences, Patna. The family members noticed a small, fleshy, pinkish growth over the cornea. History revealed ocular pain, redness of the eye, photophobia and swelling of the lidsalong with development of growth. Subsequently, complaint of loss of vision with persistent ocular pain. Past history of accidental trauma to the affected eye was given one month back by small stone.

Local examination of eye revealpresence of

mucopurulent discharge, swollen eye lid, and presence of pink, fleshy, vascularized, sessile mass 0.5 x 0.5 cm at the center of the cornea.

Visual acuity of affected eye was 0/0 with intact vision of left eye.

CT scan showed deformed right globe with distorted morphology, hyperdense vitreous with presence of surrounding soft tissue around globe, reported as leukoaraiosis - grade 3 (Figure 1).

Evisceration of the eye was performed and was subjected to histopathological examination.

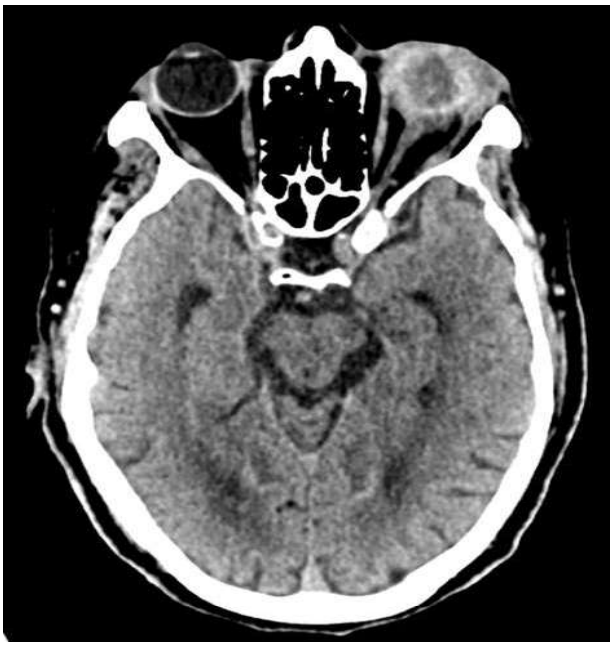

Fig. 1: CT scan showed deformed right globe with distorted morphology, hyperdense vitreous with presence of surrounding soft tissue around globe

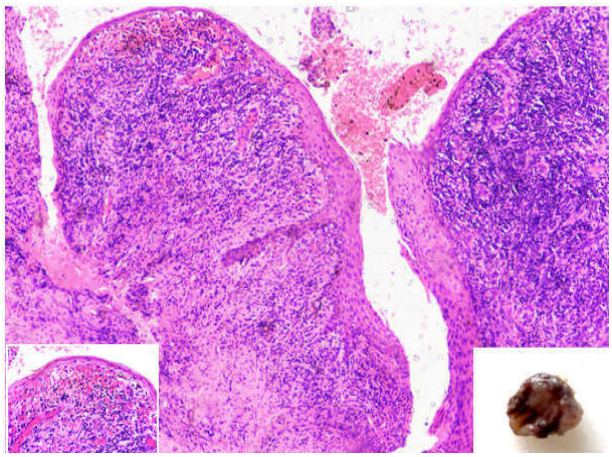

Fig. 2: Microscopic findings: proliferating capillary buds, infiltrate of mononuclear cells along under the overlying conjunctival epithelium. (H&E, x 200)
One inset show flat, smooth pink soft tissue mass measuring 6x4x2 mm, other inset show proliferated and congested thin walled capillaries. (H&E, x 400)

Histopathological Findings

Macroscopically, specimen consisted of a flat smooth pink soft tissue mass measuring 6 × 4 × 2 mm over the cornea. (Inset of Figure 2) Microscopic examination, revealed proliferating capillary buds, infiltrate of mononuclear cells along with an area of ulceration of overlying conjunctival epithelium. (Figure: 2, other inset show proliferated capillaries) Peripherally the surface was partially covered by thickened conjunctival epithelium, reported as pyogenic granuloma.

Discussion

Pyogenic granuloma are vascular overgrowth of tissue due to aberrant wound healing, response of tissue to irritation, physical or chemical trauma or hormonal factor. The term pyogenic granuloma were described by Poncet and dor 1897 and is actually a misnomer since it contains neither the inflammatory (purulent) exudate nor the typical granulomatous epithelioid giant cell reaction. It is also known as eruptive hemangioma or lobular capillary hemangioma or pregnancy tumour [4].

The common site of occurence is on the skin of the face and extremities and usually follows trivial trauma or infection, although spontaneous occurence has been reported. They may also occur on the mucosal regions such as gingiva, hard palate, cheek, tongue, and the nasal fossa. 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. This condition may also occur in the limbus and may mimic a squamous cell carcinoma [5,6]. The involvement of the cornea is acknowledged to be extremely rare and was first reported by Minckler [7]. He reported a case of pyogenic granuloma involving the cornea which simulated a recurrent squamous cell carcinoma clinically and was initially misdiagnosed as invasive squamous cell carcinoma on biopsy.

The diagnosis of pyogenic granuloma may be challenging, if diagnosed especially at the limbus or cornea, as seen in the case discussed here. There were the cases misdiagnosed as conjunctival squamous cell carcinoma & ended with enucleation. The age of onset, history of prior trauma or infections and clinical features will often point to the correct diagnosis. Histopathological examination of tumour will confirm the diagnosis [8-10].

Therefore despite its rarity, pyogenic granuloma should be considered in any patient with a fleshy,

vascularised, elevated, rapidly growing corneal mass [2,5,6] and excisional biopsy should be performed.

Apple et al [11] while acknowledging the rarity of this clinical entity arising from the cornea, reported three cases of pyogenic granuloma of cornea. All these cases developed this condition following chemical trauma to the eye. The duration between the trauma and the development of this granuloma was variable - two cases developed within two months, while one case developed eight years after initial trauma. Our patient developed pyogenic granuloma after one month of history of trauma by hard small stone.

To conclude that, Ophthalmologists should be aware that pyogenic granulomas may involve the cornea and include this entity in the differential diagnosis of tumors involving the limbus or cornea. The typical clinical appearance, rapid growth, response to topical steroids, and associated ocular surface disease help to distinguish this lesion from a neoplastic epithelial tumor of the conjunctiva or cornea.

References

1. Ferry AP. Pyogenic granulomas of the eye and ocular adnexa: a study of 100 cases. Trans Am Ophthalmol Soc. 1989;87:327-347.
2. Friedman AH, Henkind P. Granuloma pyogenicum of the palpebral conjunctiva. Am J Ophthalmol. 1971;71:868-872.
3. Mietz H, Arnold G, Kirchhof B, Krieglstein GK. Pyogenic granuloma of the cornea: report of a case and review of the literature. GraefesArch ClinExp Ophthalmol.1996;23(4):131-136.
4. Srinivasan S, Prajna N V, Srinivasan M. Pyogenic granuloma of cornea: A case report. Indian J Ophthalmol 1996;44:39-40.
5. Ferry AP, Zimmermann LE. Granuloma pyogenicum of limbus simulating recurrent squamous cell carcinoma. Arch Ophthalmol.1965;74:229-230.
6. Panda A, Bhatia IM, Pattnaik NK. Granuloma pyogenicum. Ind J Ophthalmol. 1982;30:103-106.
7. Boockvar W, Wessely Z, Ballen P. Recurrent granuloma pyogeni cum of limbus. Arch Ophthalmol. 1974;91: 42-44.
8. Minckler D. Pyogenic granuloma of the cornea simulating squamous cell carcinoma. Arch Ophthalmol. 1979;97:516-517.
9. Ekaterini C, Joseph H, Ralph C. Pyogenic Granuloma of the Cornea in an Infant With Unilateral Microphthalmia. Arch Ophthalmol. 2003;121(8): 1197-1200.
10. Boockvar W, Wessely Z, Ballen P. Recurrent granuloma pyogenicum of limbus. Arch Ophthalmol. 1974;91: 42-44.
11. Apple DJ, Boniuk MM. Pyogenic granuloma of the cornea. SurvOphthalmol. 1984;29:188-192.