Case report

Filtering bleb-induced giant papillary conjunctivitis

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Abstract

Background: Pathogenesis of giant papillary conjunctivitis is still elusive and many hypotheses are being proposed to explain the irritative symptoms associated with it. The research data available to date shows that mechanical, immunological and allergic components are involved in this to various extents. We report a rare cause of giant papillary conjunctivitis which was induced by a large filtering bleb following trabeculectomy surgery for glaucoma.

Method: A 30-year-old female, operated for glaucoma filtering surgery in her right eye 15 years back, presented with ocular irritation. Clinical evaluation revealed two giant papillae on the superior tarsal conjunctiva which coincided with the large filtering bleb with its peripheral extension. The fellow eye was normal and no association with any allergic disorders was noted.

Result: The patient responded symptomatically to the topical application of anti-inflammatory and anti-allergic medications. The giant papillae decreased considerably in size but the diffuse papillary response persisted.

Conclusion: Though multiple etiological factors have been proposed for the giant papillary conjunctivitis, only a single case report is available where a filtering bleb is the causative factor. The mechanical irritation caused by the large-sized bleb seems to be the provoking agent in our case taking into consideration the position of the papillae that coincides with the peripheral extension of the bleb.

1. Introduction

Giant papillary conjunctivitis (GPC) is an entity usually referred to describe the papillary response seen in association with contact lens wear. So very often this condition is referred to as contact lens associated papillary conjunctivitis (CLAPC or CLPC). The terminology itself was challenged at many times by various authors due to published reports which cited many other inert materials causing GPC [1]. To date GPC is reported to have been associated with suture material, ocular prosthesis, cyanoacrylate glue, limbal dermoid, extruded scleral buckle, epithelialized corneal foreign body apart from contact lenses [2–8]. The exact etiology of GPC is still elusive. A combination of allergic, mechanical and irritative mechanism is said to be involved in the pathogenesis [1]. Experts are more inclined towards calling this entity ‘irritative papillary conjunctivitis’ since many published reports support pure mechanical cause with no immunogenic-coated materials on it. The presentation may simulate giant papillae seen with vernal conjunctivitis. But only few individuals with GPC have other systemic allergic manifestations. We report another rare or underlooked cause of GPC associated with a filtering bleb.

2. Case report

A 30-year-old woman presented to us with complaints of redness, watering and pain in the right eye of 3–4 days duration. For many years she had very poor vision in that eye due to adherent leucoma with secondary glaucoma. She underwent a filtering surgery in that eye 15 years ago and since then her eye was free of irritative symptoms except for occasional redness, watering and mild itching. She had no symptoms in the fellow eye. There is no history of ocular or
systemic allergic manifestations in the past. On clinical examination the right eye was congested with vascularised adherent leucoma occupying the central cornea along with a thin-walled moderately vascularised filtering bleb with large peripheral extension and also encroaching superiorly onto the clear cornea at two separate sites with intervening flat area (Fig. 1). On evertling the upper lid, congestion and generalized fine papillary response was noted on the superior tarsal conjunctiva along with two focal areas of giant papillae (by definition >0.5 mm) along the superior tarsal margin (Fig. 2). The examination of the other eye revealed nothing remarkable in the cornea as well as superior tarsal conjunctiva (Fig. 3). There was an atheromatous ulcerative lesion on the leucoma with no infiltration associated with it. The patient was put on mild steroid (fluoromethalone 0.25%) topical medication under topical antibiotic coverage along with frequent topical tear substitutes and olopatadine 0.1% twice a day. On subsequent follow-ups the giant papillae along with the diffuse papillary reaction reduced considerably in size and the patient seemed to be significantly free of symptoms. Plan for any further intervention was refused by the patient as topical medications considerably reduced her irritative symptoms. So the patient was kept under follow-up to look for any exacerbations during which a bleb revision may be planned in addition to the current treatment.

3. Discussion

GPC initially described by Spring et al. was later elaborately studied by Allansmith et al. based on the size and appearance of the papillae on the superior tarsal conjunctiva [1]. GPC is a reversible ocular inflammatory condition in which there is a proliferative response of the upper tarsal conjunctiva to various stimuli. Biopsy of the conjunctival papillae discloses mast cells, eosinophils and occasional basophils in epithelium and substantia propria. It is intriguing to observe that not all individuals exposed to such stimuli are affected by this condition.

The presence of appropriate triggering agent of particular geometry for sufficient duration in a genetically predisposed individual seems to be associated with GPC. Previous reports have observed up to 10% association of GPC with other allergic manifestations [1]. In many cases only mechanical irritation cannot alone explain the giant papillae. There may also be some genetic endowment of the individual and also influence of environmental factors. But the condition should be differentiated from more common vernal keratoconjunctivitis (VKC). VKC is usually seen in younger age group with gradual resolution as age advances. The main symptom in VKC is severe itching and is usually bilateral seen along with other atopic symptoms. The normal appearance of fellow eye makes this diagnosis very unlikely in our case. An alternative diagnosis to be considered in this case is unilateral VKC but the chances are remote due to absence of severe itching and other allergic manifestations and atopic symptoms.

A combination of immunologic reaction to surface coating and mechanical trauma are the two commonly proposed pathogenic mechanisms for GPC. In our case the triggering agent is the elevated bleb with the peripheral extension as the position of both the papillae coincides with the geographic position of the bleb. The bleb in this case is large and extending much to the periphery with some encroachment on to the clear cornea. The absence of prosthetic material or any immunogenetic coating in this case supports the hypothesis of mechanical irritation as the possible cause. The symptoms in our case started after many...
years of contact in contrast to the earlier reported cases where the patient was symptomatic within weeks [9]. But the response to the anti-allergics and anti-inflammatory agents was similar to that in the first case reported by Heidemann et al. [9].

This case report depicts another rare cause of giant papillary conjunctivitis that highlights mechanical irritation as the main causative factor and also a potential irritative side effect of large overhanging blebs in predisposed individuals.

References


