Case Report

Treatment of Conjunctival Keratoacanthoma with Topical Interferon-alpha2b

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Abstract

Conjunctival keratoacanthoma is a rare disease which is believed to be a low-grade form of squamous cell carcinoma (SCC). Although conjunctival keratoacanthoma was primarily described almost 60 years ago, only few cases have been described in the English literature and its diagnosis and treatment guidelines are still controversial. Almost all suggested treatment options have been surgical methods and non-invasive methods have rarely been examined in treatment of this disease. Here we report an interesting case of conjunctival keratoacanthoma which was treated with topical Interferon-alpha2b.

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Introduction

Keratoacanthoma (KA) is a common tumoral lesion which arises from the pilosebaceous glands of hair follicles and is believed to be a low grade form of squamous cell carcinoma (SCC) [1]. Keratoacanthoma most commonly originates in sun-exposed, hair-bearing areas of skin and only rarely happen on mucosal surfaces [1]. Conjunctival keratoacanthoma is a rare disease with only few cases described in the English literature. Almost all suggested treatment options for conjunctival keratoacanthoma have been surgical methods and non-invasive methods have rarely been examined in treatment of this disease. Here we report an interesting case of conjunctival keratoacanthoma which was treated with topical Interferon-alpha2b.

Case report

A 33-year-old male presented to our ocular surface clinic, complaining of a rapidly growing mass on his left eye since two weeks ago. The patient was a welder, had no previous history of ocular trauma or surgery, and also no history of any ocular or systemic diseases. Best corrected visual acuity of both eyes was 10/10. On slit lamp examination, a protruding nodular mass was evident in nasal bulbar conjunctiva, encroaching to the limbus. The conjunctival mass was 5 × 5 mm in size, was congested with surrounding dilated vessels, and had a hyperkeratotic surface (Figure 1A). According to the clinical picture and the time course of the lesion growth, the patient was diagnosed with conjunctival keratoacanthoma. Treatment with topical Interferon-alpha2b (IFN α-2b), 3 mIU four times per day, was started and patient was followed for signs of improvement every 2 weeks. After one month of treatment the lesion started to regress (Figure 1B) and 2 months after starting the Interferon treatment near complete resolution of the lesion was observed (Figure 1C). Treatment was continued for another 2 months after resolution. No sign of relapse was seen 6 months after the first visit (Figure 1D).

Discussion

Keratoacanthoma presents as a dome shaped nodule with a central keratin-filled crater [2]. Almost all previously reported conjunctival keratoacanthomas have been located on the temporal bulbar conjunctiva, adjacent to the limbus, within the palpebral fissure [3]. The present case was unusual in that it occurred in nasal bulbar conjunctiva. An exclusive feature of keratoacanthoma is its unusual natural course which includes 3 phases: proliferative phase characterized by a rapid growth, stabilization phase (well-developed mature lesion) and involutional phase in which the lesion undergoes spontaneous regression [4]. It takes about 9 weeks for the lesion to present and about 27 weeks to disappear [5]. The main differential diagnosis of keratoacanthoma is SCC, which develops more slowly than keratoacanthoma, is less well demarcated, and lacks the central keratin filled crater [3]. Because of the unpredictable behavior of keratoacanthoma and difficulty to differentiate it from SCC, both clinically and histopathologically; there is no consensus or guideline for the best management protocol.

There are several treatment choices such as surgical excision, topical therapy with 5-fluorouracil (5-FU) or Imiquimod, and intralesional therapy with 5-FU or methotrexate [6].

In 2014, Oellers et al., [6] reported a case of conjunctival keratoacanthoma which was treated with surgical excision followed by topical Interferon-alpha2b four times per day for 2 months.

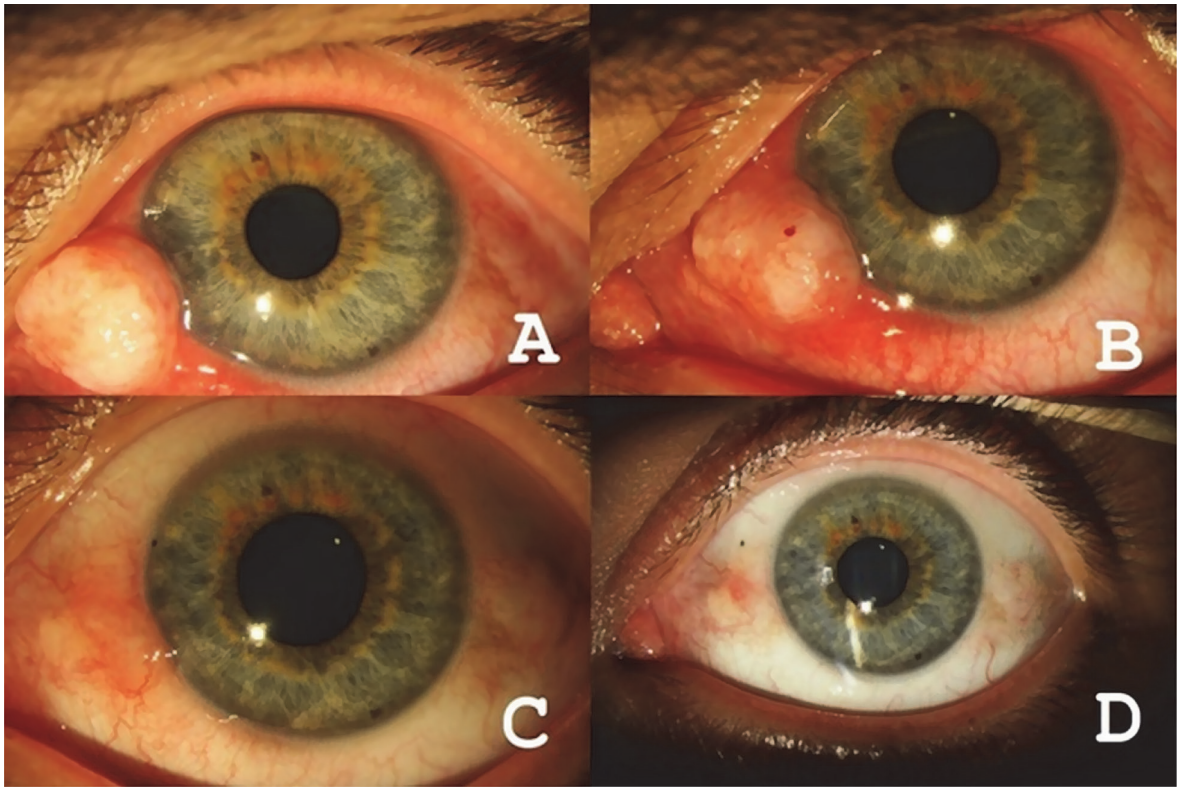

Figure 1: (A) Before treatment with IFN α-2b, (B) One month after starting treatment with IFN α-2b, (C) Two months after starting treatment with Interferon-alpha2b, (D) Six months after the first visit

It is not always possible to differentiate keratoacanthoma from SCC or be sure that SCC will not evolve from a keratoacanthoma lesion. That is why most previously reported conjunctival keratoacanthomas have been managed by surgical excision. In the management of ocular surface squamous neoplasia (OSSN) including SCC, clinical practice patterns are evolving from wide local excision toward the less invasive use of topical chemotherapy drugs like Interferon-alpha2b as monotherapy alone or as adjuvant drugs [7].

We used topical Interferon-alpha2b for treatment of keratoacanthoma as a non-invasive method. One of the drawbacks of this method is that without surgical excision we could not have histopathologic confirmation of the diagnosis. However, considering the clinical features and the rapid growth pattern the diagnosis could be made with high certainty. Another limitation is that the natural course of keratoacanthoma includes final regression after initial growth and therefore it is not possible to differentiate the natural course from the treatment effect. However, considering that SCC is an important differential diagnosis, observation alone and waiting for spontaneous regression of the lesion is not recommended.

Conclusion

Here, we introduced a rare case of conjunctival keratoacanthoma along with a novel treatment method. Topical Interferon-alpha2b was used as a substitute for the invasive wide local surgical excision and was effective in the management of conjunctival keratoacanthoma. This treatment method should be investigated in more subjects with a longer follow up

period before suggesting it as an alternative for surgical treatment.

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References

1. Beham A, Regauer S, Soyer HP, Beham-Schmid C. Keratoacanthoma: a clinically distinct variant of well differentiated squamous cell carcinoma. Adv Anat Pathol. 1998;5(5):269-80.

2. Cohn JE, Caruso Sales HM, Nguyen GH, Spector H, Briskin K. Keratoacanthoma of the Nasal Septum Secondary to Ranibizumab Use. Case Rep Pathol. 2017;2017:8257590.

3. Mandrell JC, Santa Cruz D. Keratoacanthoma: hyperplasia, benign neoplasm, or a type of squamous cell carcinoma? Semin Diagn Pathol. 2009;26(3):150-63.

4. Coupland SE, Heimann H, Kellner U, Bornfeld N, Foerster MH, Lee WR. Keratoacanthoma of the bulbar conjunctiva. The British journal of ophthalmology. Br J Ophthalmol. 1998;82(5):586.

5. Griffiths RW. Keratoacanthoma observed. British journal of plastic surgery. Br J Plast Surg. 2004;57(6):485-501.

6. Oellers P, Karp CL, Shah RR, Winnick M, Matthews J, Dubovy S. Conjunctival keratoacanthoma. Br J Ophthalmol. 2014;98(2):275-6.

7. Adler E, Turner JR, Stone DU. Ocular surface squamous neoplasia: a survey of changes in the standard of care from 2003 to 2012. Cornea. 2013;32(12):1558-61.

Footnotes and Financial Disclosures

Conflict of interest:

The author has no conflict of interest with the subject matter of the present case report.