Interferon Eyedrops in the Treatment of Basal Cell Carcinoma of the Eyelid☆

Colirio de interferón y carcinoma basocelular palpebral

To the Editor:

Interferons (IFN) are a family of pleiotropic cytokines that exert antiviral and antitumor effects through several different mechanisms (Table 1).[1] These cytokines are of interest to dermatologists mainly because of their effectiveness in the treatment of basal cell carcinoma (BCC), squamous cell carcinoma, Kaposi sarcoma, and melanoma.[2]

Intralesional IFN was first demonstrated to effectively treat BCC in 1986,[3] and it produced complete responses in between 67% and 80% of patients in published series. IFN can be administered as monotherapy or as an adjuvant after surgery. Here, we describe the use of IFN administered topically in ophthalmic eyedrops in the management of a BCC on the free margin of the eyelid. This formulation is used in ophthalmology to treat squamous conjunctival papillomata,[4] squamous neoplasms of the ocular surface, Kaposi sarcomas, and conjunctival melanomas.[5]

Table 1 Interferons: Indications and Mechanisms of Action.

Indications
Antiviral
Hepatitis B[a,b]
Hepatitis C[a,b]
Human papilloma virus[a,c]
Antitumor
Hepatocarcinoma[b]
Chronic myeloid leukemia,[a,b] hairy cell leukemia,[a,b] multiple myeloma[b]
Kaposi sarcoma[a,b]
Renal carcinoma[a]
Basal cell carcinoma[b]
Squamous cell carcinoma[b]
Melanoma[a,b]
Mechanisms of action
Suppression of cell proliferation
Increased macrophage-mediated phagocytosis
Inhibition of viral replication
Inhibition of angiogenesis
Increase in cellular immune response of T lymphocytes

Interferon subtype: a, alfa-2a; b, alfa-2b; c, alfa-n3.

We report the case of an 88 year-old woman with a histologically-confirmed, solid papular BCC of 5 mm in diameter on the margin of the lower left eyelid (Fig. 1). The patient refused surgical treatment. Other treatment options, such as photodynamic therapy and imiquimod cream, were considered, but were ruled out due to the characteristics and location of the lesion. The patient also refused treatment with intralesional IFN due to a fear of injections. It was decided to treat the BCC with IFN alfa-2b in ophthalmic eyedrops at a concentration of 1 million IU/mL, administered 4 times per day.[6,7] This treatment was continued for 4 months, resulting in a decrease in the size of the lesion (Fig. 2). No adverse effects were observed during treatment, and there was no change in the clinical appearance of the lesion on follow-up at 39 months. The patient still refuses to undergo either surgery or a control biopsy.

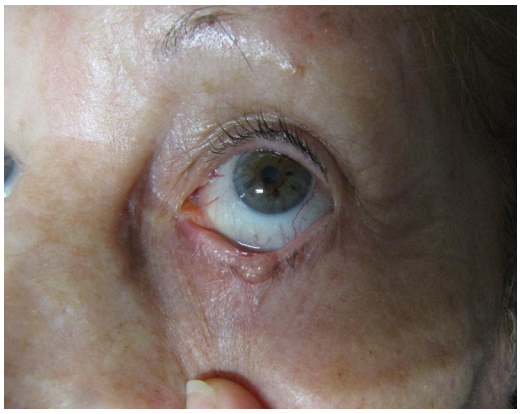

Figure 1 Basal cell carcinoma on the lower margin of the left eyelid: appearance before starting treatment.

Figure 2 Decrease in lesion size after 4 months of treatment.

The efficacy of IFN alfa-2b eyedrops in various tumors of the conjunctiva, eyelid, and ocular surface is described in the ophthalmic literature.[2,5,7,8] The recommended dose is 1 drop of IFN alfa-2b at 1 million IU/mL 4 times per day for 3 to 4 months. Some authors recommend a maintenance regimen of 1 drop every 12 hours.[6] Several studies have compared ophthalmic with intralesional IFN alfa-2b administration[8] in the treatment of both non-invasive and invasive ocular surface squamous neoplasia, reporting better patient compliance and lower rates of local and systemic side effects in patients treated with eyedrops. The only local side effects reported are mild and resolve upon discontinuation of treatment. They include punctate keratitis, follicular conjunctivitis, and conjunctival hyperemia.[5,8,9] Development of the flu syndrome characteristic of systemic or intralesional IFN therapy is rare.[6,7] Comparison of IFN alfa-2b eyedrops with surgical treatment of non-invasive squamous neoplasia has revealed a comparable cure rate (total resolution in 96.4% of patients),

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with eyedrops producing better cosmetic results and less destruction of limbal stem cells.[10]

While we found no mention of this treatment in the dermatological literature, several ophthalmologic publications describe the effectiveness of topical IFN alfa-2b in cases of viral warts, intraepidermal carcinomas, and even melanomas on the eyelids and ocular surface, although these results are described in small series or isolated cases and should thus be interpreted with caution. We found no other cases in which IFN alfa-2b eyedrops have been used in the management of BCC of the eyelid. BCC is an accepted indication for IFN alfa-2b, and our findings point to a new potential route of administration. In our case the volume of the tumor decreased considerably, and the patient remains clinically stable after 3 years. However, we have no objective evidence of resolution, which requires close monitoring in a clinical setting. Our isolated experience should in no way change the standard accepted approaches used for the management of nonmelanoma skin cancer. Controlled clinical trials will be necessary to definitively determine the effectiveness of this treatment. However, given its ease of administration and its few, mild side effects, we propose the use of IFN alfa-2b eyedrops as a neoadjuvant therapy in selected cases to reduce tumor size before microscopically controlled surgical excision.

References

1. Lee BJ, Nelson CC. Intralesional interferon for extensive squamous papilloma of the eyelid margin. Ophtal Plast Reconstr Surg. 2012;28:e47–8.
2. Shields CL, Kancherla S, Bianciotto CG, Lally SE, Shields JE. Ocular surface squamous neoplasia (squamous cell carcinoma) of the socket: Management of extensive tumors with interferon. Ophtal Plast Reconstr Surg. 2011;27:247–50.
3. Fenton S, Kennedy S, Moriarty P. The role of interferon alpha 2 b as an adjunctive treatment in the management of aggressive basal cell carcinoma of the eyelids. Acta Ophtalmol Scand. 2002;80:674–5.
4. Schechter BA, Rand WJ, Velazquez GE, Williams WD, Starasoler L. Treatment of conjunctival papillomata with topical interferon alfa-2b. Am J Ophtalmol. 2002;134:268–70.
5. Finger PT, Sedeek RW, Chin KJ. Topical interferon alfa in the treatment of conjunctival melanoma and primary acquired melanosis complex. Am J Ophtalmol. 2008;145:124–9.
6. Galor A, Karp CL, Chhabra S, Barnes S, Alfonso EC. Topical interferon alpha 2 b eye-drops for treatment of ocular surface squamous neoplasia: A dose comparison study. Br J Ophtalmol. 2010;94:551–4.
7. Schechter BA, Schrier A, Nagler RS, Smith EF, Velasquez GE. Regression of presumed primary conjunctival and corneal intraepithelial neoplasia with topical interferon alpha-2b. Cornea. 2002;21:6–11.
8. Shields CL, Kaliki S, Kim HJ, Al-Dahmash S, Shah SU, Lally SE, et al. Interferon for ocular surface squamous neoplasia in 81 cases: Outcomes based on the American Joint Committee on Cancer Classification. Cornea. 2013;32:248–56.
9. Verdaguer P, Fideliz de la Paz M, Álvarez de Toledo JP, Barraquer RI. Interferón alfa-2b, queratectomía parcial y trasplante de membrana amniótica para el tratamiento de un carcinoma escamoso conjuntival recidivante. Arch Soc Esp Oftalmol. 2011;86:154–7.
10. Huerva V. Interferón alfa-2b tópico o escisión quirúrgica como tratamiento primario de la neoplasia conjuntival intraepitelial. Arch Soc Esp Oftalmol. 2009;84:5–6.

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Aseptic and Alopecic Nodules of the Scalp☆

Nódulos asépticos y alopécicos del cuero cabelludo

To the Editor:

Alopecic and aseptic nodules of the scalp (AANS), also known as pseudocyst of the scalp, is a new, little known, and probably underdiagnosed entity.

AANS was first described in the Japanese literature in 1992.[1] The condition was described as pseudocyst of the scalp because histologic examination revealed cyst-like cavities lacking a true cystic wall.[1] The first cases in Western populations were reported by Chevallier and coworkers[2] in 1998, who described the lesions as non-infectious and alopecic scalp abscesses. In 2009, Abdennader and colleagues introduced the term ''alopecic and aseptic nodules of the scalp'', as they failed to consistently find the cystic cavities described in the Japanese studies.[3,4] About 70 cases have been described to date; these are listed in Table 1.

Case Description

We report the case of a 16 year-old male with an asymptomatic alopecic plaque on the right parietal region of the scalp. A soft, domed, erythematous, and slightly alopecic nodule of 3 cm in diameter surrounded by normal scalp was palpable on examination (Fig. 1). Biopsy showed an inflammatory lesion in the mid and deep dermis composed of granulation tissue, edema, reactive angioproliferation, and non-confluent granulomas, some with giant cells and others with central abscess formation (Fig. 2). Specific staining for microorganisms with Periodic acid Schiff (PAS), silver, Giemsa, and Ziehl-Neelsen was negative, as were mycological and bacteriological cultures. Treatment was initiated

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