Long-term Administration of Topical Interferon Alfa-2B in the Treatment of Conjunctival Squamous Papilloma

Interferon alfa-2B is a well-known antiviral therapy with potent antiproliferative properties. Presumably, this has been the basis for its intralesional and short-term topical administration for squamous papillomas. Like other modalities used to treat these lesions, recurrence has been common with interferon therapy. However, recent evidence suggests that long-term administration of interferon alfa-2B is capable of inhibiting angiogenesis. Clinically, it has been used in this manner, for an 8-month duration, to successfully treat various vascular tumors such as hemangiomas, Kaposi sarcoma, and hemangiopericytomas. We report the use of long-term topical therapy (8 months) with interferon alfa-2B in the successful treatment of recurrent squamous papilloma.

Report of a Case. A 27-year-old, healthy, white man complained of an enlarging itchy “lump” in the corner of his right eye. The patient had no significant medical history. His best-corrected visual acuity was 20/15 OU. Surrounding adnexa were unremarkable and there were no signs of adenopathy. A 3.7 × 2.8-mm sessile lesion consistent with a squamous papilloma (Figure) was identified in the medial canthal region. His anterior chamber and dilated fundus examination findings were also within normal limits.

After informed consent was obtained, the patient was treated with a total of 0.3 mL (6 mIU/mL) of interferon alfa-2B (Intron-A; Schering, Kenilworth, NJ) subconjunctivally and intralesionally. He was then placed on a regimen of topical interferon alfa-2B at a concentration of 1 mIU/mL administered 4 times a day. Prompt regression of the lesion was noted at the patient’s 2-week follow-up appointment. Topical therapy was stopped. At the 6-week follow-up, a recurrence of the squamous papilloma was observed. Additional subconjunctival and intralesional injections were administered. Topical therapy was re instituted 4 times a day for a total of 8 months. By the 6-week follow-up the tumor had regressed. At 8 months, treatment with the eyedrops was discontinued and the patient remained tumor free. There remains no sign of recurrence at the 18-month follow-up appointment. Complete examinations were performed at each visit and included visual acuity, slit-lamp, intraocular pressure, and dilated fundus evaluations. The patient experienced no apparent local or systemic side effects related to this therapeutic regimen.

Comment. Conjunctival squamous papillomas are composed of a fibrovascular core surrounded by an acanthotic squamous epithelium. There remains a strong association with the human papilloma virus, specifically, types 6, 11, and 16.

Management of these lesions is often difficult and can be frustrating for both patients and physicians. Surgical excision, cryotherapy, CO2 laser ablation, mitomycin C, cimetidine, and acute interferon alfa-2B therapy have all been used. A recent article by Hawkins et al5 served as our source for the concentrations of the interferon alfa-2B. They describe the acute resolution of the tumor with this modality but the need for mitomycin C for more permanent treatment. Unfortunately, despite the initial beneficial effects of most treatments, recurrence after cessation of therapy has been a noted outcome.

Interferon alfa-2B is traditionally known for its antiviral and antiproliferative properties. When given as long-term treatment, it has also been shown to possess antiangiogenic effects. Dinney et al10 studied these effects on transitional cell carcinoma. Inhibition of angiogenesis was found to be highly associated with the decrease in basic fibroblastic growth factor and, theoretically, was responsible for the inhibition of tumor growth. A similar process may account for the inhibition of recurrence of the squamous papilloma in our patient.

Topical interferon has been successful in treating conjunctival papillomas in 2 patients. These patients received topical interferon alfa-2B at a dose of 1 mIU/mL 4 times a day until there was complete regression. Successful treatment of recurrent lacrimal papilloma with topical and intralesional injection has also been reported. In addition, there are 2 case series that document resolution of conjunctival and corneal intraepithelial neoplasia with
topical2 and perilesional injection and topical interferon alfa-2B.2 These investigators also used a topical dose of 1 mL/U/mL but only continued therapy until the lesion was not clinically detectable.1,7 We believe that the long-term use of topical therapy in the treatment of squamous papilloma may take advantage of the compound’s antiangiogenic properties and therefore prevent recurrence. It appears to be a safe and effective treatment for this tumor. The exact mechanism by which long-term therapy with interferon alfa-2B may exhibit its effects needs further study.

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A New Syndrome of Hereditary Congenital Corneal Opacities, Cornea Guttata, and Corectopia

Bilateral infantile corneal opacities can be caused by anterior segment dysgenesis, corneal dystrophy, congenital glaucoma, inflammation, systemic storage disease, or sclerocornea.1-3 We describe a mother and son with bilateral superior V-shaped corneal opacities, cornea guttata, and corectopia. This unique combination of anterior segment abnormalities has not, to our knowledge, been reported to be inherited.

Report of Cases. Case 1. A 14-day-old term male infant had bilateral congenital corneal opacities. He could not fix or follow a light source. Slitlamp examination showed dense bilateral superior V-shaped corneal opacities (Figure 1). In the area of opacification, there were a few iridocorneal adhesions and what appeared to be cornea guttata in both eyes. The pupil was drawn superiorly and was occluded by the corneal opacities in both eyes. The lens and fundus could not be visualized. There were no signs of inflammation, systemic dysmorphia, or an intrauterine-derived infection. Preoperative ultrasonography revealed a normal lens and vitreous and no retinal detachment. Inferior iridectomies were performed in both eyes 2 weeks apart starting at the age of 1.5 months. At the latest follow-up examination 2 years later, he had nystagmus but appeared to have reasonably good vision. His refraction was +2.00 +2.00 × 180 OD, and +1.50 +1.25 × 90 OS. The intraocular pressure was normal. There was a mild decrease in the density of the corneal opacities but no change in their surface area during the follow-up period. The optic nerve heads appeared to be smaller than average but were not flagrantly hypoplastic.

Case 2. The mother of the patient in case 1, at the age of 31 years had a best-corrected visual acuity of 20/40 OD (refraction, −11.25 +5.00 × 120) and 20/60 OS (refraction, −15.00 +5.25 × 90). She had full-thickness corneal opacities similar in location but less extensive than those

Figure 1. Preoperative photograph of the right cornea (A) of the patient in case 1 and left cornea (B) of the patient in case 1 shows V-shaped corneal opacities extending from the superior paralimbal region to the center of the cornea.