Effect of Topical Rebamipide on Human Conjunctival Goblet Cells

The conjunctival epithelium contains mucin-secreting goblet cells, which are essential for maintenance of a healthy ocular surface. A variant of the squamous cell carcinoma that simulates sebaceous carcinoma is rare. Nevertheless, sebaceous carcinoma and sebaceoma share immunohistochemical findings of positivity for cytokeratin and androgen receptor; negativity for adipophilin, which is specific for adipocytes with the exception of mucoid areas of sebaceous carcinoma. A recent study showed that 100% of sebaceous carcinomas were positive for androgen receptors. Owing to their rarity, sebaceous carcinomas are usually diagnosed through biopsy and histology. The diagnosis of sebaceous carcinoma is confirmed by immunohistochemical studies demonstrating positivity for androgen receptor and negativity for adipophilin. The diagnosis of sebaceous carcinoma is confirmed by immunohistochemical studies demonstrating positivity for androgen receptor and negativity for adipophilin.

Confl. Interests: None reported.

Figure 1. Slitlamp Examination and Indocyanine Green Angiographic Findings in a Patient With Conjunctival Tumor Before and After Topical Rebamipide Treatment

A. Slitlamp examination before topical rebamipide treatment shows a pinkish tumor located in the nasal bulbar conjunctiva with abnormal vessels. B. Indocyanine green angiography of the anterior segment before topical rebamipide treatment displays a markedly stained lesion corresponding to the tumor. C. Slitlamp examination 3 months after starting topical rebamipide treatment shows no staining in the conjunctiva.
Association of goblet cells with the tissues in rabbit and mouse models. For the rat conjunctiva, Rebamipide led to an increased number of goblet cells of the epithelium of a human. The results also verify in vitro evidence that Rebamipide treatment, the conjunctival epithelium shows a smooth surface with an increased number of goblet cells (25/high-power field) (hematoxylin-eosin, original magnification ×400).

Discussion | Rebamipide is considered to increase the number of goblet cells of the tissues in rabbit and mouse models. For the first time, to our knowledge, our study has demonstrated that use of rebamipide alone for 3 months resulted in a markedly increased number of goblet cells in the conjunctival epithelium of a human. The results also verify in vitro evidence that rebamipide led to an increased number of goblet cells of the rat conjunctiva.

A limitation of this study is its short follow-up time. A previous article demonstrated that topical rebamipide could be safely used for 4 weeks in patients with dry eye syndrome and that its effectiveness would last for at least 2 weeks after the end of treatment. Careful observation is mandatory to ensure the safety of topical rebamipide. Also, the conjunctiva of the fellow eye was not available in this study. Further studies are needed to verify the goblet cells in the conjunctival tissues of human eyes that have not undergone surgery.

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Author Contributions: Dr S. Kase had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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Drafting of the manuscript: S. Kase.

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Adalimumab for Pediatric Sympathetic Ophthalmia

Sympathetic ophthalmia (SO) is an autoimmune, bilateral, granulomatous panuveitis occurring after accidental or surgical trauma to the eye. Systemic corticosteroids are first-line therapy for SO, with immunomodulatory therapy used for corticosteroid-sparing immunosuppression and chronic, refractory cases. Biological response modifiers are a class of therapeutics that target specific cytokines mediating inflammation, and tumor necrosis factor α (TNF-α)-antagonist biological response modifiers have shown prom-