

## CORNEAL INTRAEPITHELIAL NEOPLASIA

Liang-Jung Su, Ray-Fong Lee,  
Shew-Gin Yow, Po-Chiung Fang,  
Wei-Chi Chang\*

**Purpose:** To study the clinical and pathologic characteristics of corneal intraepithelial neoplasia.

**Methods:** Eight corneal intraepithelial neoplasia cases were presented in this study. Keratometry, topography, surgical debridement, and pathologic examination were performed for these cases.

**Results:** Topography revealed astigmatism associated with the epithelial opacity. Pathologically, corneal intraepithelial neoplasia was characterized by hyperplasia of the epithelial cellular layer, loss of cellular polarity, and irregular cellular shape. Five cases revealed positive reaction in human papillomavirus immunohistochemistry study, two cases showed koilocytosis, and one case showed mitotic change. After removal of the membranous corneal opacity, most cases had great visual improvement. One recurrence was noted during the follow-up period.

**Conclusions:** We find that corneal intraepithelial neoplasia may be associated with human papillomavirus, and may present as a precancerous change. It results in flattened effect corneal astigmatism. Although surgical management can eliminate the lesion and improve the vision promptly, all corneal intraepithelial neoplasia patients need long-term careful follow-up.

Key words: Corneal intraepithelial neoplasia, dysplasia, corneal topographic change, human papillomavirus.

### INTRODUCTION

Corneal and conjunctival intraepithelial neoplasia (CIN) is an uncommon disease with a wide variety of presentation. It is usually adjacent to limbal lesion, such as pterygium, pinguecula, or squamous

cell carcinoma<sup>1</sup>. Pathologically, corneal intraepithelial neoplasia is often characterized by hyperplasia of the epithelial cellular layer, loss of cellular polarity, and irregular cellular shape. CIN usually includes partial-thickness dysplasia and full-thickness carcinoma in situ. Both lesions are restrained by an intact basement membrane without invasion of the

---

Received: November 25, 1998, Revised: December 29, 1998, Accepted: June 4, 1999.

Department of Ophthalmology & Pathology\*, Chang Gung Memorial Hospital at Kaohsiung

Correspondence and reprint requests to: Ray-Fong Lee, Liang-Jung Su, Department of Ophthalmology, Chang Gung Memorial Hospital-Kaohsiung, 123, Ta-Pei Rd., Kaohsiung, Taiwan.