EFFECT OF PROLINE ANALOGS ON MIGRATION OF CORNEAL EPITHELIUM

Shizuya Saika¹, Natsuko Hashizume¹, Kenshiro Uenoyama¹, & Akira Ooshima².

Depts of Ophthalmology (1) and Pathology (2), Wakayama Medical College, 7-Bancho 27, Wakayama, 640, Japan.

Epithelial migration is important to the healing of wounds on the surface of the eye¹. We examined the effect of two proline analogs, both inhibitors of collagen production, on corneal epithelial migration.

MATERIALS AND METHODS

The migration of the corneal epithelium was evaluated according to the method of Nishida, et al.² with a minor modification. In brief, corneal blocks (2 X 4 mm) obtained from adult albino rabbits (n=12) were incubated for 30 hr in Eagle's MEM with or without L-azetidine 2-carboxylic acid (AzC, 0-100 micro g/ ml) or cis-hydroxyproline (OH-P, 0-200 micro g/ ml) in 5% CO₂/ 95% air at 37 C°. Cryosections of the corneal blocks were stained with HE. The length of the path of epithelial migration onto the stromal cut surface was measured by light microscopy. Eight pieces of the blocks were used for each datum.

RESULTS AND DISCUSSION

Both proline analogs inhibited the migration of corneal epithelium (Fig. 1, 2). This inhibitory effect was abolished by adding 200 micro g/ ml of L-proline (P) to the medium. These
observations indicated that continuous production of collagen is essential to corneal epithelial migration. Further study is required to clarify which specific collagen is involved in epithelial migration.

REFERENCES
