Correspondence

Corneal vascularization

To the Editorial Committee of the British Journal of Ophthalmology

Sirs,—In an article entitled “Corneal vascularization induced experimentally with corneal extracts” (Brit. J. Ophthal., 1969, 53, 827), P. J. Folca, in a well-designed experiment, suggests that there is no relationship between the degree of corneal swelling and concomitantly produced experimental corneal vascularization. The author concludes that after disorganization of corneal tissue, the release of a vessel-stimulating factor results in corneal neovascularization and that the neovascularization does not appear to be mediated by the production of corneal swelling.

I should like to call Mr. Folca's attention to two articles. In the first, “Congenital hereditary corneal dystrophy” (Amer. J. Ophthal., 1960, 50, 1114), A. E. Maumenee points out the association of limbal corneal oedema in combination with the absence of stromal vascularization and suggests that the mere presence of oedema in the periphery of the cornea is insufficient to stimulate neovascularization. In the second, “Corneal edema and corneal vascularization” (Amer. J. Ophthal., 1968, 65, 882), J. L. Baum and E. Martola describe a series of patients with Fuch's dystrophy in whom there was no corneal vascularization and whose mean limbal corneal thickness was $0.919 \pm 0.026$ mm. (S.E.M.). The paper also presents a second series of patients with actively vascularized corneae, whose mean limbal corneal thickness was $0.849 \pm 0.026$ mm. (S.E.M.). The results of the study indicate that a small number of patients are to be found with long-standing limbal oedema and no evidence of vascularization in the oedematous area immediately adjacent to the limbal blood vessels. When adjusted for age group, the limbal corneal thickness in those patients with bullous keratopathy without vascularization was on average approximately 47 per cent. greater than normal, while in the group with active limbal vascularization, the limbal corneal thickness was on average approximately 27 per cent. greater than normal. The authors suggest that corneal oedema is a necessary but not a sufficient stimulus for neovascularization.

In summary, Folca has suggested, on the basis of his experimental results, that corneal oedema is an insufficient stimulus for corneal neovascularization. He has, however, neglected to document the work of previous authors who reached a similar conclusion based on their own data and experimental evidence.

I am in sympathy with the present-day author who must search through a voluminous literature for pertinent articles before presenting his own data. Fortunately, the author is aided in many cases by the reviewer of the journal to which he has submitted his article for publication.

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March 26, 1970

Sincerely yours,
JULES L. BAUM

Book review


Dr. Johnson remarked (amongst other things) about Lord Chesterfield's patronage that "had it been early, it had been kind". The present volume contains papers presented at a Symposium at
Kyoto in 1967 and had it appeared sooner its value would have been enhanced; during the last 2 years much water has flowed through corneae.

Within the compass of this review, it is not possible to discuss the individual contributions in detail and the reviewer can do no more than indicate the contents.

The book is divided into three parts: corneal epithelium (5 papers), stroma (7 papers), and endothelium (1 paper). In Part I Zadunaisky discusses the evidence of active transport of chloride in *Rana catesbiana* and Green presents some extremely careful work in support of his theory that the influx of Na⁺ across the epithelium plays a primary role in maintaining corneal thickness. Green's notion of "bound sodium" (and especially the second paragraph on p. 64) is less than transcendentally clear and his interpretation may well be questioned. Hedby and Mishima compare the hydraulic conductivities in all three layers of the cornea, and this section is completed by Kikkawa (Intra-cellular potentials) and Sigiura ("Polygonal" cells). Part II deals mainly with the physical chemistry of the stroma. Mathews describes the connective tissue matrix and Langham, Hart, and Cox discuss the lattice structure of collagen fibrils in relation to the MPS ground substance. (In the proceedings of a symposium held in 1967, it seems a little unfair for Hart to give references dated 1969—and, having aroused the reader's interest, to cite these as "unpublished" or "in press"). Mauric provides a deceptively simple code and raises many interesting points on the availability of corneal water for the distribution of solutes. Part III consists of a single paper by Mishima, Kaye, Takanbashi, Kudo, and Trenberth, which gives an excellent account of an alternative to Green's hypothesis: that corneal thickness is regulated primarily by the endothelium. This paper should be read together with Green's contribution and it would have been interesting had the volume concluded with a report of the discussion which must, inevitably, have taken place.

These proceedings are clearly intended rather for serious students of corneal function than for clinicians and one must feel greatly indebted to the Editor for assembling an account of the *status quaec tionis* which will be valuable for many years to come.

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**Notes**

**International Symposium on Ocular Cryosurgery**

*Rome, October 17–18, 1970*

An international symposium on ocular cryosurgery will be held in Rome, on October 17–18, 1970, by the Italian Ophthalmological Society. The moderator will be Dr. G. B. Bietti.

The speakers will be Dr. J. J. Bellows (*Chicago*), Dr. C. J. Casanovas (*Barcelona*), Dr. A. De Roeth, Jr. (*New York*), Dr. T. Krewawicz (*Lublin, Poland*), Dr. H. Lincoff (*New York*), and Mr. K. Rubinstein (*Birmingham, England*).


Ophthalmologists attending the Symposium and wishing to take part to the discussion should send in the subject of their contribution in advance.

More detailed information may be obtained from J. Pecori-Giraldi, Ph.D., Secretary, Clinica Oculistica dell'Università, Policlinico, 00161 Rome, Italy.