Considerations on Antibiotics in Ophthalmology

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Discussion.

Mrs. Kok-Van Alphen: I should like to know which bases were used in the administration of antibiotics as ointments. Is it desirable to use aqueous bases for water-soluble antibiotics?

Pannevis: Has any experience been obtained on the effect of subconjunctival injections of depot preparations?

Crone: Is anything known about the penetration of antibiotics into eyes with intraocular infections? The conditions there might differ from those in normal eyes.

Flieringa was not only very interested in the paper but also grateful for it. The speaker's communication that *B. pyocyaneus* is susceptible to streptomycin

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had drawn his attention. Some time ago a hospital in Rotterdam had a case of pseudomonas pyocyaneus infection which was absolutely resistant to streptomycin and could only be cured by polymyxin. He asked whether the speaker had had any experience with this antibiotic.

Bleeker to Mrs. Kok-van Alphen: A mixture of lanolin, vaselin and paraffin was used as ointment base for the antibiotics. Theoretically it is of advantage to use water soluble therapeutics dispersed in lipid base and reverse to secure a satisfactory penetration into the cornea.

to Pannevis: Subconjunctival injections with procain penicillin are very well tolerated and provide long lasting therapeutic concentrations in the anterior segment. 200,000 U given in this way are sufficient for a period of 48 hours. The result is comparable to the effect of 500,000 U of penicillin G combined with adrenalin. The latter, however, causes much pain.

to Crone: To solve this problem we carried out some experiments in 1951. In 4 rabbits the right eyes were inoculated with a streptococcus by means of a suspension injected in the anterior chamber. The left eyes were kept as control. 3 days later, when a marked inflammation had developed, the rabbits were given 1500 U of penicillin intramuscularly. 45 minutes afterwards the infected eyes as well as the controls were enucleated in order to determine the penicillin contents of the tissues. The level in the aqueous of the infected eyes (2 U/ml.) was five times that of the controls (0.4U/ml.). The penicillin contents of the irides, on the other hand, amounted only to one half of the concentrations in the controls.

No significant difference could be demonstrated in the other tissues. The vitreous of both failed to show an appreciable level.

Thus the change in permeability of the blood aqueous barrier caused by infection is readily demonstrated. The effect, however, is limited to the aqueous.

to Flieringa: During the last years we have not encountered any infection with *bac. pyocyaneus*. Therefore we lack personal experience.

In the literature streptomycin, polymyxin D and gantrisin are reported to be effective. Dr. Flieringa's case, however, illustrates the necessity of testing the sensitivity of the organism prior to the beginning of antibiotic therapy.

The results sometimes are surprisingly different from the data given in the literature because of individual changes in susceptibility.

a) Histology of a Hereditary Retinal Affection.

b) A Peculiar Degeneration of the Posterior Pole in Young People.

By G. M. JAGER (Amsterdam). Manuscript not received.