MANAGEMENT OF OCULAR HERPES SIMPLEX

(1) Herpetic Blepharitis

The fluid content of the skin vesicles is replete with virus particles and constitutes a real danger to the cornea. This danger is enhanced if the lesions are situated near the lid margin—particularly in children who are likely to disseminate the virus particles by abrading the affected area. Application of an antiviral agent to the lesions is directed towards reducing the incidence of corneal infection. However, if the vesicles arise well away from the lid edge, no specific treatment is required.

Management

- (a) Oculent 5-iodo-2'-deoxyuridine (IDU) five times daily applied to vesicles and conjunctival sac for 7 to 10 days.
- (b) Cartella shield strapped over the lids and worn continuously day and night affords useful protection in children.

(2) Primary Ocular Herpes Simplex

An acute follicular conjunctivitis with non-suppurative lymphadenitis characterizes the initial infection with herpes virus when it enters through the eye. It is frequently complicated by the appearance of a coarse punctate keratitis. Treatment is directed towards the prevention or amelioration of corneal disease.

Management

Ocuent IDU five times daily for 7 to 10 days or until the corneal lesions, if present, cease to stain with Bengal rose.

(3) Dendritic Ulceration

This condition is a manifestation of virus replication in the corneal epithelium. Characteristically a linear ulcer with a variable number of offshoots (dendrites) is produced; single or multiple lesions may be in evidence. If local steroids have been inadvertently administered to such a cornea, the ulcer often assumes an amoeboid shape. In this situation the accompanying stromal opacification, which is usually minimal, may be extensive.

Management

- (a) Cauterization of the ulcer margin. This treatment is particularly indicated in single dendritic ulceration.
- OR (b) Ocuent IDU five times daily or guttae IDU (hourly by day and 2-hourly by night) for one week, or longer if the lesions remain active. This therapy is particularly advised for multiple or steroid-enhanced dendritic ulceration, and ulceration in children wherein cauterization cannot be carried out so accurately unless performed under general anaesthesia.

(4) Stromal Keratitis

The management of this form of ocular herpes is based on the theory that the condition represents a hypersensitivity response in the corneal stroma to the antigenic stimulus of the virus resident in the overlying epithelium or deeper corneal foci. If the stromal reaction is severe, it is rational to try to allay it with steroids. A frequent complication of stromal keratitis is the appearance of dendritic ulceration. If steroids are administered for a stromal keratitis they will enhance the formation of such ulceration to the detriment of the cornea. However, by using a combination of IDU and steroids, the incidence of dendritic ulceration as a complication of stromal keratitis can be reduced from 42 to 15 per cent. This therapy should be continued until the stromal reaction appears quiescent—an endpoint which may be attained only after several months of treatment. Thereafter, the patient should be weaned gradually off the steroids. The umbrella of IDU is continued until such time as the local steroids are being administered infrequently.

Management

- (a) Conservative treatment only, if the stromal reaction is mild.
- (b) Ocuent IDU five times daily plus guttae steroid four times daily until the eye is quiet.

- (c) Thereafter, the oculent IDU five times daily is continued and guttae steroid reduced at weekly intervals to three times, twice, then once daily.
- (d) Guttae steroid alternate days reducing to bi-weekly for 1 to 6 months.

(5) Combined Epithelial Ulceration and Stromal Keratitis

There are several situations in which stromal keratitis is associated with ulceration of varying morphology:

- (i) Stromal keratitis of a diffuse, disciform, or irregular distribution, which is complicated some time after its inception by dendritic ulceration.
- (ii) Stromal reaction accompanying steroid-enhanced dendritic ulceration.
- (iii) Metaherpetic keratitis in which an indolent ulceration with regular edges extends into an oedematous scarred stroma.

Treatment of this combination of epithelial and stromal keratitis is based upon that outlined for the two respective conditions with certain modifications.

Management

- (a) Dendritic ulceration must be treated with cauterization of the ulcer or administration of IDU.
- (b) When the epithelium appears quiescent clinically oculent IDU five times daily plus guttae steroid once daily is begun. The steroid is cautiously increased at approximately weekly intervals to twice daily, then three times daily. This combined therapy is continued until the stroma appears quiet and thereafter the steroid applications are slowly reduced.

Metaherpetic keratitis may respond to a combination of oculent IDU and local steroid, but a reluctance of the ulcer to heal and the corneal hypoaesthesia sometimes warrant a tarsorrhaphy.

Miscellaneous

(a) Most patients can be treated on an out-patient basis. In the presence of stromal keratitis, treatment is likely to be prolonged and management should be carried out by one observer. A corneal diagram drawn at each visit and frequent photographs are invaluable to record and assess the progress of the condition.

(b) Bengal rose dye is the best agent to employ in studying the corneal epithelium for evidence of virus replication. In the presence of stromal keratitis the following staining characteristics may be noted:

- (i) Fine epithelial keratopathy which does not usually indicate virus activity. It is often seen in the epithelium over areas of stromal oedema or, rarely, indicates IDU toxicity.
- (ii) Coarse epithelial keratopathy, occurring either in clusters or singly, indicates virus replication and may progress to frank dendritic ulceration. If steroids are currently being administered they should be stopped, or curtailed, until these lesions disappear.
- (iii) Frank linear or amoeboid dendritic ulceration.
- (iv) Indolent ulceration of metaherpetic keratitis.
- (v) Filamentary kerato-conjunctivitis.

(c) Mydriatics, local heat, pad, and bandage are indicated so long as the eye remains injected. Carbonic anhydrase inhibitors are invaluable for the treatment of secondary glaucoma; antibiotics may be required to combat or to be used as a prophylaxis against secondary infection.

(d) Repository steroids should not be used in any form of herpetic keratitis as their action lasts for 3 to 4 weeks and cannot be curtailed if dendritic ulceration supervenes. If topical steroids are prescribed for stromal keratitis, they should be given under an umbrella of IDU as indicated. Additionally, it behoves the ophthalmologist to examine the cornea by slit-lamp microscopy bi-weekly, to exclude the presence of dendritic ulceration or pre-dendritic epithelial staining characteristics.

(e) The recurrence of ocular herpes may be prevented by the use of aspirin in fever, the protection of the eye from sun and wind with appropriate glasses, and a sympathetic approach to any emotional problems giving concern to the patient.

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