

mycin should be used, since both are active against the cocci and Gram-negative bacilli. Indeed, there is a good case for using one of these two antibiotics initially as routine.

Endophthalmitis

Infection of the interior of the globe may occur as a result of a perforating injury. Once infection is established it progresses rapidly, and the eye will be lost unless intensive antibiotic treatment is started at an early stage. In addition to the antibiotics, subconjunctival corticosteroids should be given in order to control excessive inflammation; otherwise, even though the infection is overcome, the sight will be permanently damaged. Intra-ocular infections are so serious that it is good practice to give a subconjunctival injection of a wide-spectrum antibiotic as a prophylactic after all perforating wounds.

Virus Infections

In Britain the commonest virus infections involving the eyes are epidemic keratoconjunctivitis, herpes simplex, and herpes zoster. Occasionally an active trachoma is seen in a patient recently returned from abroad, and lymphogranuloma venereum may infect an infant's eyes at birth.

Epidemic Keratoconjunctivitis

This is due to an adenovirus and presents as an acute follicular conjunctivitis with pre-auricular and submaxillary adenitis. There are numerous sub-epithelial corneal infiltrates about one millimetre in diameter. The condition is usually self-limiting but takes many weeks to subside spontaneously. Local chloramphenicol treatment with drops hourly and ointment at night hastens the cure. Hydrocortisone used simultaneously assists the resolution of the corneal lesions.

Herpes Simplex

Herpes simplex produces the dendritic corneal ulcer, and treatment with antibiotics or the usual chemotherapeutic agents is useless. Iodo-deoxyuridine (idoxuridine; I.D.U.), which has recently become available, is active against the virus of herpes simplex. To be effective, however, drops must be applied hourly during the day, and ointment two-hourly at night, and treatment must be continued for a week or more. This exacting treatment is not always successful and certainly small or localized dendritic ulcers are better treated by the well-tried chemical cauterization with phenol or iodine. It is dangerous to use corticosteroids in active cases of dendritic ulceration; although symptoms may be relieved, spread of the disease is encouraged. In advanced cases of corneal herpes with deep infiltration of the substantia propria and severe uveitis corticosteroids may be required to control the uveitis and to prevent secondary glaucoma. In such cases I.D.U. should be given in addition to the corticosteroids.

Herpes Zoster

When herpes zoster affects the ophthalmic division of the fifth cranial nerve the eyeball is usually involved, with resulting keratitis and iridocyclitis. Antibiotics are of value only in combating secondary infection, but local corticosteroids reduce the ocular inflammation and will nearly always prevent serious damage to the eye. The special dangers associated with the use of corticosteroids in herpes simplex do not apply to herpes zoster.

Trachoma

The acute stage of trachoma is manifest as a follicular conjunctivitis with unusually large follicles under the upper tarsal conjunctiva. Very soon the cornea becomes ulcerated, and later vascularized. As the acute phase subsides the follicles shrink, to be replaced by subconjunctival scarring. This leads to inversion of the eyelid margins and trichiasis. In the early stages, trachoma responds satisfactorily to treatment with antibiotics of the tetracycline group. The antibiotic should be applied every two hours in ointment form. Additional systemic tetracycline is of value in severe or resistant cases.

Lymphogranuloma Venereum

While this disease usually affects the genito-urinary tract, it can infect the eye, producing a very acute follicular conjunctivitis resembling trachoma. It is most often seen as a form of ophthalmia neonatorum, and is contracted by the infant from the mother at birth. Intensive local tetracycline therapy is required, supplemented by systemic administration. Epithelial scraping may be of diagnostic value.

Fungus Infection

Fungus infections of the eye itself are very rare in Britain. Occasionally a keratitis due to the *Aspergillus fumigatus* or *Candida albicans* is seen, and usually follows a corneal abrasion. Such infections appear to be more common in the United States, where it is considered that prolonged use of antibacterial antibiotics and corticosteroids may predispose to these infections. A corneal ulcer due to a fungus has a densely infiltrated dry base surrounded by a white ring deep in the cornea. A microscopic specimen obtained by curetting the base of the ulcer may reveal the mycelium. The local application of nystatin is helpful in controlling the condition, but the prognosis is usually unfavourable.

Infection of the lacrimal canaliculi by the *Actinomyces israeli* is the only common fungus infection encountered in ophthalmology. Clinically a small hard mass can be felt in the affected canaliculus and there is pouting of the lacrimal punctum. The correct diagnosis is often overlooked, since the patient's symptoms are due to secondary chronic conjunctivitis. Antibiotic drops control the secondary infection, but relief is only temporary. A permanent cure can be easily effected by opening the canaliculus surgically and removing the cheesy concretions formed from compressed mycelium. The canaliculus should then be irrigated with a penicillin solution (10,000 units per ml.) and penicillin drops should be used for a few days.

Book of "To-day's Drugs."—This book is now available through booksellers at 30s., or from the Publishing Manager, B.M.A. House, Tavistock Square, London W.C.1, at 32s. 6d., including postage. It is based on the series of review articles which were printed in the "To-day's Drugs" section between January 1963 and May 1964. The articles have been edited and brought completely up to date so as to form an authoritative and practical guide to modern therapeutics. The book is designed to cover the drug treatment of those common conditions which are met with in general and hospital practice.

Correction.—In the article "A Rational Approach to Oxygen Therapy" (19 December 1964, p. 1580) it was stated in the table that the Ventimask gives an alveolar concentration of 27% oxygen. In fact this mask gives an inspired concentration of 27% oxygen.