ENDOGENOUS FUNGUS ENDOPHTHALMITIS
DUE TO Candida Albicans*†

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ENDOGENOUS fungus infections of the inner eye are rare, actinomycete, blastomycete, and aspergillus being the most frequent causative organisms. After the introduction of corticosteroids there was a 15-fold increase in ocular mycosis and fungi of low pathogenicity have produced ocular lesions. Monilia Candida albicans has been reported to produce metastatic retinal or chorio-retinal lesions (van Buren, 1958; Vialatte, Satge, Roidot, and Meschaka, 1961; Pearl and Sidransky, 1960; McLean, 1963) and panophthalmitis (Miale, 1943; Wolter, 1962; Rimbaud, Rioux, and Boulad, 1963). These cases were healed by the use of mycostatic agents (Calmettes, Deodati, and Bazex, 1960; Bonatti, Jaeger, and Frayer, 1963). The purpose of this communication is to describe two such cases, one exhibiting retinal lesions with keratitis and the other one showing endogenous endophthalmitis due to Candida albicans.

Case Reports

Case 1, a boy born in 1948, had received several courses of penicillin for various infections before his first birthday and had since been admitted to hospital several times for generalized moniliasis. Fungus lesions had been diagnosed in the skin, nails, throat, and lungs, and Candida albicans had been cultured from the throat, sputum, stomach fluid, and cerebrospinal fluid.

Right Eye.—In January, 1957, the visual acuity was 1/0 with correction. The conjunctiva showed slight congestion and there were small pin-point infiltrates in the cornea. The tension and ocular media were normal. The optic disc was slightly congested and following the lower temporal branch of the retinal veins a chorio-retinal lesion compatible with chorio-retinitis was noted (Fig. 1, opposite).

Left Eye.—The findings were similar, except that the chorio-retinitis followed the course of the upper temporal branch of the vein and small chorio-retinal scars were present (Fig. 2, opposite).

In July, 1958, very little change had taken place, but the retinal arteries appeared narrowed and sheathing was observed in the veins.

The patient continued to suffer from generalized moniliasis and died of moniliasis-septicaemia in 1960. Autopsy was refused.

Case 2, a 70-year-old man, observed a skin ulcer in the right retro-auricular region in December, 1964. A similar ulcer soon developed in the right temporal region and a plum-sized lump in the neck. He had enjoyed good health except glandular tuberculosis at the age of 12 years. He was treated at the department of dermatology, University of Helsinki for 9 days in January. A reddish skin ulcer measuring 6 × 3 cm. was observed in the right zygomatic region as well as a

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ENDOPHTHALMITIS DUE TO C. ALBICANS

Fig. 1.—Case 1, showing retino-choroiditis from Candida albicans of the right eye following the course of the lower temporal vein.

Fig. 2.—Case 1, showing retino-choroiditis from Candida albicans of the left eye following the course of the superior temporal vein.

purulent ulcer measuring 4.5 × 2.5 cm. behind the right ear, and a plum-sized lump was felt in the submandibular region (Figs 3 and 4).

Figs 3 and 4.—Case 2, showing ulcers due to Candida species.
**Discussion**

The incidence of *Candida* infections usually increases with age, patients with some other debilitating illness, such as diabetes, being liable to moniliasis (as in our second patient). In children prolonged antibiotic therapy (as in our first case) is often followed by clinical infection with *Candida albicans* (Zimmerman, 1950).
The retina appears to be the ocular structure chiefly affected in metastatic *Candida* infection; although the corneae were slightly affected in Case 1, there was no evidence of anterior uveitis, and although the uvea was affected in Case 2 the most marked changes were seen in the retina and pigment epithelium. These findings agree with those of van Buren (1958) and McLean (1963).
For the treatment of candida lesions, nystatin and amphotericin B have been advised by Hoffmann (1965), and the clinician must be alert to the possibility of a fungal lesion.

Summary

Two patients had metastatic ocular infection by Candida species; the first showed bilateral retino-choroiditis and superficial keratitis but no evidence of anterior uveitis, and the second presented with bilateral uveitis and a vitreous abscess in one eye which had to be enucleated. The histopathological changes agreed with the clinical picture.

REFERENCES