Canaliculitis with isolation of *Pityrosporum pachydermatis*

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SUMMARY A case of canaliculitis with obstruction of the lacrimal canaliculus and accumulation of conglomerates is described. *Pityrosporum pachydermatis* was cultured from the conglomerates. To the best of our knowledge this organism has not been previously implicated in such infections. Cure was obtained by treatment with nystatin administered topically and as an irrigation of the lacrimal pathways. The possibility that the pathogenesis of the canaliculitis and obstruction of the lacrimal pathways lies in decreased function of the lacrimal pump is discussed.

Canaliculitis is a well known clinical entity despite its relative rarity (Vaughan *et al.*, 1965). Various organisms have been described in its aetiology, including bacteria, actinomycetes, and fungi (Donahue, 1949; Vaughan *et al.*, 1965; Francois, 1968; Locatcher-Khorazo and Seegal, 1972; Duke-Elder, 1974). The fungi have included *Aspergillus*, *Candida*, *Trichosporon*, *Scopulariopsis*, and *Cephalosporium* species (Francois, 1968; Locatcher-Khorazo and Seegal, 1972). The present work describes a case of a complete occlusion of the lacrimal canaliculus due to a deposit of concretum from which *Pityrosporum pachydermatis* was cultured. To the best of our knowledge this species of fungus has not been previously implicated in such infections.

Case report

A 61-year-old man suffered for a year with irritation, redness, production of tears, and a yellow secretion of pus from the left eye. He was treated topically with different corticosteroid and antibiotic drugs without improvement. The purulent secretion increased, and he was referred to our outpatient clinic with a tentative diagnosis of dacryocystitis and/or infected chalazion. Examination of the left eye showed a swelling of the inner part of the lower lid and a button of yellow secretion in the lacrimal

Fig. 1 Button of yellow purulent secretion on the lacrimal punctum

punctum (Fig. 1). There was a symblepharon of the conjunctiva connecting the margin of the lacrimal punctum with the plica, with traction on the punctum. Throughout the examination a continuous epiphora was observed.

The lacrimal pathways of both eyes were rinsed with saline, which passed freely to the pharynx, raising the suspicion of a canalicular infection. Conglomerates of yellow material (Fig. 2) were obtained by pressure with the finger on the area of the lacrimal duct in the direction of the canaliculus and lacrimal punctum. This material was cultured for bacterial and fungal agents. These cultures yielded Gram-positive micrococci and a yeast-like

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Fig. 2 Conglomerates of yellow material pressed out from the canaliculus

organism growing on Sabouraud's dextrose agar (Figs. 3 and 4) both at room temperature and at 37°C. The microscopic examination of subcultures from corneal agar revealed the presence of blastospores with mycelium.

Tests of assimilation of glucose, maltose, sucrose, lactose, galactose, xylose, trehalose, raffinose inositol melibiose, and cellobiose using the classical Wickerham method (Lodder, 1971) were negative. A weak assimilation of glucose was seen by an auxinographic technique (Huppert *et al.*, 1975; Segal and Ajello, 1976). Fermentation of glucose, maltose, sucrose, and lactose and the urease test gave negative results. Applying an auxinographic method for nitrogen compounds assimilation revealed the assimilation of ammonium sulphate and not of potassium nitrate. These various morphological and biochemical characteristics were confirmed by the Fungus Diagnostic Branch of the Mycology Division at the Center for Disease Control in Atlanta, Georgia, USA, where the organism was identified as *Pityrosporum pachydermatis*.

Treatment was initiated with the antifungal agent nystatin, administered as drops (7000 units nystatin/ml saline), 2 drops 6 times a day for a month, and as an irrigation of the lacrimal pathways twice a week. In addition, the symblepharon was released. After a month of this treatment a cure was obtained.

Discussion

Accumulation of material in the form of conglomerates is found in canaliculitis due to actinomyces (Francois, 1968). Wolter and Deitz (1963) described

Fig. 3 Yeast-like culture isolated from conglomerates

Fig. 4 Budding yeast cells from Sabouraud's dextrose agar culture

a case of dacryocystitis due to *Candida albicans* with concretum formation in the lacrimal sac. The isolation of *Pityrosporum pachydermatis* from the conglomerates in the canaliculus of our case raises the possibility that conglomerate formation may be a more general phenomenon in microbial canaliculitis.

Pityrosporum species (*P. orbiculare* and/or *P. ovale*) have been associated with ocular disease, specifically seborrheic blepharitis, although there is no definite proof of their aetiological role in these diseases (Parunovic and Halde, 1967; Francois, 1968; Locatcher-Khorazo and Seegal, 1972). The isolation of *P. pachydermatis* from the conglomerates in our case, and the cure following treatment with a specific antifungal substance, point to the involvement of this organism in the ocular infection.

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