

DIVERTICULUM OF THE LACRIMAL SAC*

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A diverticulum of the lacrimal sac of sufficient size to cause clinical symptoms is a rare occurrence. It is felt that the following example is accordingly worthy of record.

Case Report

A woman aged 33 was admitted to the Unit on February 17, 1957. She had been referred by Mr. W. E. Heath from the Kent County Ophthalmic and Aural Hospital, Maidstone, where she had attended early in 1955 and again in July, 1956. Her complaint was of a swelling in the right lacrimal region which had slowly increased in size since her first attendance in 1955; recently there had been epiphora of increasing severity. The only history of injury that could be obtained was of a blow on the right eyebrow region many years previously and there had been no episodes suggesting inflammation in the lacrimal sac area. There was no associated nasal catarrh and no relevant family history.

Examination.—There was a tense swelling in the region of the right lacrimal sac about 1 cm. in diameter; the overlying skin was freely mobile but there appeared to be an attachment to the deep tissues. The swelling could not be reduced by pressure and syringing of the naso-lacrimal passages revealed fairly easy patency but without alteration in size of the accompanying swelling.

A dacryocystogram was carried out.

X-Ray Report (Dr. W. Campbell):

“Both canaliculi are patent. The lacrimal sac distends with Neohydriol; some trickles through the duct and enters the nose. The base of the sac is deformed and the obstruction is at the neck” (Fig. 1, opposite, and Fig. 2, overleaf).

Operation.—On February 19, 1957, an operation was performed (J.N.O.) under low-pressure anaesthesia (Dr. A. Edrigh). The orbicularis fibres were found to be markedly thinned over a pearly-white cyst which extended above to the medial palpebral ligament and below to the naso-lacrimal duct. The cyst was easily separated from the adjacent structures by blunt dissection; it was removed leaving the lacrimal passages intact. Next day the watering had ceased and the lacrimal passages were freely patent on irrigation.

Pathological Report (Dr. A. Sachs):

(Macroscopical.) “A cyst 1 cm. in diameter filled with caseous-like material.”

(Microscopical.) “The cyst is lined by typical lacrimal sac epithelium. The walls show the presence of a cellular infiltrate consisting mainly of plasma cells, eosinophils and round cells.”

(Diagnosis.) “An infected diverticulum of the lacrimal sac in which the communication with the sac has become shut off.”

Discussion

For the diagnosis of a cystic diverticulum arising from the lacrimal sac, it is necessary that the pathological examination of the cyst wall should show it to be identical with the wall of the lacrimal sac, as in the present case.

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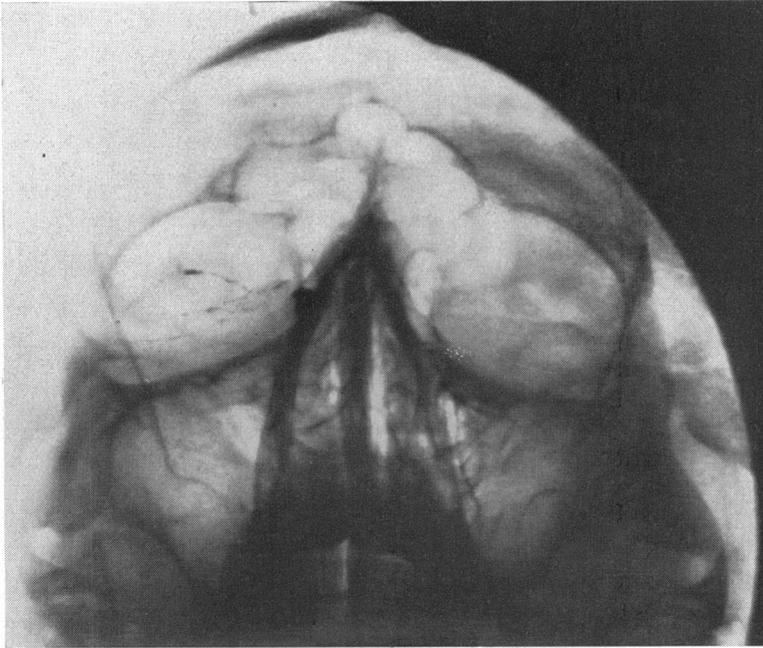


FIG. 1.—Patency of naso-lacrimal duct with partial obstruction at neck of sac.

Clinical reports of lacrimal diverticula in the literature are few. Michail (1932) reviewed the literature and could find only eleven previous reports. He added three new cases of his own: one was small and considered to be of congenital origin, one accompanied an infection of the naso-lacrimal duct by blastomycosis, and one followed injury and chronic inflammation. Spinelli (1937) reported a further case that had developed slowly over a period of 23 years and which was demonstrated by radiological examination after injection of radio-opaque material directly into the cyst. Law (1943) reported a case of recurrent lacrimal abscess with patency of the naso-lacrimal passages in which a lacrimal diverticulum was shown at operation.

Most authors agree that these diverticula may be of congenital, inflammatory or traumatic origin. The embryological researches of Tartuferi (1902) show that an accessory lacrimal sac lying anterolateral to the normal sac and communicating with it at the upper end of the naso-lacrimal duct does occasionally occur; Michail's first case is of this nature. Such a diverticulum is initially in communication with the naso-lacrimal duct and its secretions can drain through the duct. Low-grade inflammation or even engorgement of the surrounding plexus of veins could cause this communication to become temporarily or permanently shut off, and the accumulated secretions would set up a low-grade inflammation in the wall of the diverticulum which would further aggravate the condition.

In Spinelli's reported case there was a valve-like communication between the diverticulum and the lacrimal passages allowing radio-opaque material to



FIG. 2.—Deformed base of sac filled with Neohydriol; patency shown by Neohydriol in nasopharynx.

enter the diverticulum from the sac but not in the reverse direction. In a case reported by Franceschetti (1927) the reverse was true and injection of local anaesthetic into the diverticulum passed down the naso-lacrimal duct. In the present case there was no patent communication between the diverticulum and the lacrimal passages.

The present case also showed a chronic inflammation of the walls of the diverticulum, whilst the lacrimal sac exposed at operation appeared normal macroscopically and this normality was further suggested by the ease with which the lacrimal passages were immediately patent following operation. It seems reasonable to postulate that the following sequence of events occurred. First there was a congenital diverticulum of the lacrimal passages; then followed intermittent obstruction of its drainage by vascular engorgement or chronic inflammation, with retention of secretion and increase in size, and pressure on the adjacent lacrimal sac producing epiphora.

Summary

A case of lacrimal sac diverticulum is reported which became large enough to form a visible swelling and which pressed on the normal lacrimal passages producing epiphora. Removal cured the epiphora. It is suggested that the present case was of congenital origin.

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