Correspondence

Bilateral infiltrative orbital disease: is it chemically induced?

Radiological evidence of orbital infiltrative disease leads us to a differential diagnosis of lymphoma, sarcoid, or inflammatory disease. This may not always be complete. Benign lymphoid hyperplasia is a reactive inflammatory response to an antigen. It is an infrequent cause of bilateral proptosis, and its pathology is not entirely understood. We report a case of possible chemical-induced, reactive, benign lymphoid hyperplasia leading to bilateral proptosis secondary to prolonged occupational exposure. We are unaware of any similar observation in the published medical literature.

A 67-year-old man with no significant medical history was referred to the eye clinic with painless, slowly progressive bilateral proptosis over 2 years. He had been employed at a water treatment plant for 10 years. His daily occupation involved regular handling of chemicals like sodium metabisulphite, aminotrimethylene phosphonic acid, and sodium sulphite. He did not wear a protective respirator. Ocular examination revealed visual acuity of 6/9 bilaterally, normal optic nerve and macula, and restriction of elevation and right gaze in both eyes without diplopia.

Over a similar period the patient had also experienced asthma and loss of smell and taste. Investigations of all secondary causes of infiltrative disease were negative. Computed tomography (CT) scan of the orbits revealed bilateral homogenous enlargement of the lacrimal glands engulfing the lateral recti, with mucosal thickening of the ethmoid and maxillary sinuses (Fig. 1). The mucosal thickening may have contributed to the anosmia, although no other symptoms of chronic sinusitis were present. A differential diagnosis of lymphoma was made, and an orbital biopsy of both eyes was performed. Histology revealed an ellipse of small lymphocytic infiltrate with follicle formation and germinal centres. This appearance suggested benign, reactive lymphoid hyperplasia (Fig. 2).

The patient was commenced on a reducing regime of oral prednisolone (80 mg/d). There was complete resolution of his proptosis, asthma, and anosmia, and the sensation of taste partially returned. CT scan performed after treatment also revealed a bilateral reduction in the volume of the orbital mass (Fig. 3).

Our patient was chronically exposed to sodium metabisulphite, aminotrimethylene phosphonic acid, sodium sulphite, and hydroxyphosphono-carboxylic acid without any protection. Metabisulphite is known to cause bronchoconstriction in asthmatic and nonasthmatic subjects and has also been shown to increase bronchial blood flow and induce airway microvascular leakage of white blood cells in animals. Sodium sulphite causes bronchoconstriction, and hydro-

References


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gen sulphide can cause anosmia.\textsuperscript{4} Sulphites enter the body through inhalation and cause hyperplastic changes in animal mucosa.\textsuperscript{5} There is a high probability that most of the nonocular symptoms were attributable to chemical exposure. Given that the patient’s ocular findings were bilateral and that both ocular and nonocular symptoms resolved promptly when systemic steroids were begun, there is a significant possibility that his entire symptomatology may be attributable to a single etiology.

His employers accepted liability for his respiratory symptoms. We feel that the exposure to sodium metabisulphite could be an important etiological factor in the development of benign lymphoid hyperplasia.

It is difficult to establish the association between chemical exposure and benign lymphoid hyperplasia; however, earlier experimental studies suggest the possibility of a causal relation.

**REFERENCES**


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A broken Lester Jones tube following indirect trauma

A Lester Jones tube is a hollow Pyrex tube used as a conduit for tears from the conjunctival lake to the nasal cavity, bypassing the lacrimal canaliculi and sac. Although the success rates of Lester Jones tubes are high, the complication rates are also high.\textsuperscript{1} We present a case of a Lester Jones tube breaking following an occipital head injury. There is only 1 other reported case of a Lester Jones tube breaking in situ, in that case because of direct trauma following repeated syringing.\textsuperscript{2}

A 67-year-old man had a left Lester Jones tube (Altomed, Tyne and Wear, U.K.) inserted for epiphora in 2005. He had not had any previous lacrimal drainage surgery. One week prior to presentation, he had fallen, striking the back of his head on the floor. He had no eye symptoms at the time. However, after several days, he felt some irritation at the medial aspect of the eye and pulled out a small fragment of glass.

Examination revealed corrected visual acuities of 6/9 OD and 6/9 OS. The anterior wall of the proximal end of the left Lester Jones tube was absent. A small left medial conjunctival laceration was noted. The cornea was clear, with no laceration or abrasion. Otherwise, ocular examination was normal.

The broken Lester Jones tube was removed (Fig. 1, top). It was broken at both ends. No remaining tube fragments were found. The tube passageway was syringed without obstruction. The Lester Jones tube was replaced (Fig. 1, bottom).

This case shows that breakage of the Lester Jones tube can occur following indirect trauma. The Lester Jones tube is held within a canal created in the lacrimal bone. The transfer of energy through the skull and facial bones following the occipital head injury and into the tube is most likely the mechanism of breakage. There was no history of direct trauma to the tube. Clearly, a broken Lester Jones tube adjacent to the eye is dangerous, with the potential to cause globe or medial canthal trauma. The tube is constructed from Pyrex glass. This causes little inflammatory response and is smooth sided, reducing the problem of blockage. Drainage tubes constructed from silicone or Teflon may be

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**Fig. 1**—The replaced Lester Jones tube and conjunctival laceration (top) and the Lester Jones tube broken at both ends (bottom).