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Clinical Records

Bilateral conductive deafness related to erosive lichen planus

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Abstract
A case of bilateral progressive stenosis of both external auditory canals with resultant conductive hearing loss is presented. The stenosis revealed multifocal erosive and synechiant lichen planus. To our knowledge, this is the first reported case of lichen planus involvement of the external ear.

Key words: Hearing loss, conductive; Ear canal; Lichen planus

Introduction

Lichen planus (LP) is a chronic pruriginous disease of middle-aged adults characterized by faint violaceous, squamous papules that can affect any area of the skin. Mucosal involvement may occur and often presents in an erosive pattern. Depending on the location, erosive LP may result in stenosis as a consequence of synechiae (Boyd and Neldners, 1991). Oral involvement is the most frequent mucosal variant (Silverman *et al.*, 1985) but LP lesions in the genitalia (Pelisse, 1989; Eisen, 1994), oesophagus, stomach, anus, nose and larynx have been described (Scully and El-Kom, 1985). We report a case in which progressive bilateral stenosis of both external auditory canals resulting in conductive deafness revealed an erosive LP.

Case report

A 69-year-old Caucasian woman was admitted to the ENT department with a seven-year history of relapsing bilateral external otitis resulting in 40 dB progressive conductive hearing loss on both sides. Examination revealed painful crusted erosions and inflammatory stenosis of both external auditory canals (EAC). Examination of the tympanic membranes was difficult because of the stenosis but showed no anomalies. Histological examination of a biopsy specimen showed orthokeratotic hyperkeratosis, dermal oedema with neocapillaries and moderate submucosal lymphocytic infiltrate (Figure 1). Direct immunofluorescence and patch testing were negative. Surgical treatment on the right side, comprising removal of the inflammatory tissue close to the tympanic membrane, was performed to calibrate the EAC. The latter was restored with temporal fascia and an epidermal preauricular flap. Patency was achieved with rolled silastic and gauze plugging. Relapse occurred in less than three months. A simultaneous outbreak of muco-cutaneous lesions of LP supported the diagnosis. Examination at this time revealed oral lesions (retrocommissural and painful leucokeratoses, erosive gingivitis) and perianal erosions suggestive of erosive and multifocal LP. Both biopsies (gingiva and anus) showed unequivocal lichen comprising hyperacanthosis, hypergranulosis, dermal lymphocytic infiltrate close to the epidermis with focal exocytosis and damaged basal cell layer with colloid bodies (Figure 2). Direct immunofluorescence was negative.

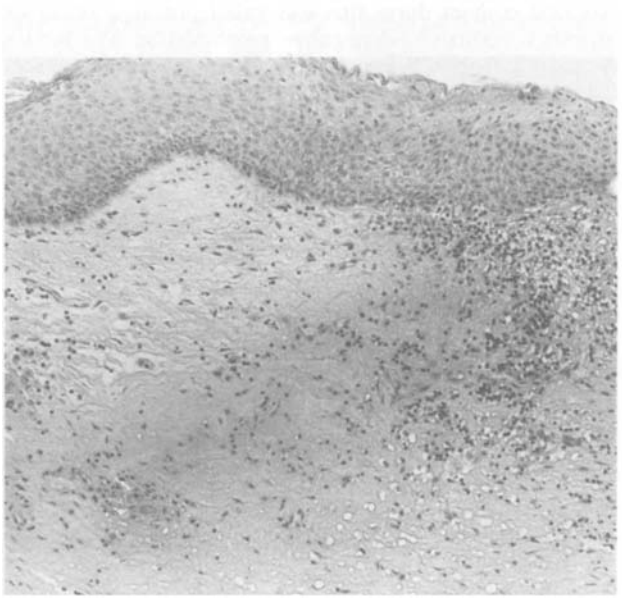

FIG. 1
External auditory canal. Nonspecific dermal infiltrate and edema close to the epidermis (H & E; × 250).

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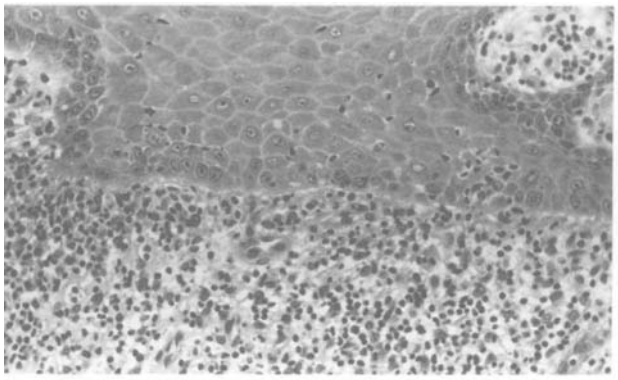

FIG. 2

Characteristic diagnostic features of lichen planus including a band-like 'lichenoid' infiltrate of lymphocytes, epidermal colloid bodies and exocytose (H & E; × 400).

Prescription of acitretine (initially 25 mg/d then 35 mg/d) resulted in partial improvement of both stenosis and hearing. This condition finally necessitated oral steroid therapy (prednisone 1 mg/kg/d) with dramatic improvement, but relapse occurred when the dosage was decreased.

Discussion

The deafness in this case was related to the stenosis of both external auditory canals. Such acquired stenosis may result from a large number of conditions, mainly inflammatory and neoplastic diseases (Lucente *et al.*, 1995). Tumours of the meatus such as osteoma or exostoses were easily ruled out after the clinical examination. Differential diagnosis of inflammatory stenosis may include psoriasis, seborrhoeic dermatitis, contact dermatitis and cicatricial pemphigoid (Lucente *et al.*, 1995). Psoriasis and seborrhoeic dermatitis, and pemphigoid were excluded on histological and immunofluorescence findings respectively. Atypical contact dermatitis was ruled out as a result of histology findings and negative patch-testing. We finally diagnosed erosive lichen planus-related bilateral stenosis. LP in the external ear and resulting deafness in association with typical, pathology-supported lesions of erosive LP (anus, gingivae) and stenosis of the external auditory canals has never to our knowledge been reported. It was not possible to prove the diagnosis of LP in the ear, but the histological diagnosis may be difficult to affirm, whatever the location (Pelisse, 1989; Dickens *et al.*, 1990). The evolution of erosive LP to synechiae is well known and the analogy here with other examples of LP-related stenosis, such as dysphagia in oesophageal LP (Al-Shihabi and Jackson, 1982; Lefer, 1982; Sheenan-Dare *et al.*, 1986; Jobard-Drobacheff *et al.*, 1988; Dickens *et al.*, 1990) is striking. Medical treatment of LP, and particularly mucosal LP, is not easy. Retinoids such as acitretine must be envisaged, but recourse to systemic immunodepressive therapy is sometimes necessary. Surgical treatment must be approached with care because of the risk of an isomorphic response (Koebner phenomenon). The latter is the induction by, and at the site of, non-specific skin trauma of changes identical to a previous dermatose. It is particularly characteristic of psoriasis and LP.

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