

Pathology in Focus

Bilateral secondary syphilis of the tonsil

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Abstract

A patient with bilateral tonsillar enlargement secondary to syphilis is presented. Clinical appearance, histological findings and serological tests permitted a correct diagnosis to be obtained, ruling out the suspicion of cancer.

Key words: Syphilis; Tonsil

Introduction

Syphilis may be congenital or it may be sexually or non-sexually acquired. The acquired form may be clinically divided into four stages: primary, secondary, tertiary and quaternary. Quaternary syphilis is either neurosyphilis or cardiovascular syphilis (Souhami and Moxham, 1990).

The genitalia are the most affected sites of primary syphilis but the oral cavity may also occasionally be involved at any of the first three stages of the disease, with the lips, tongue and tonsil respectively showing the greatest frequency of incidence among the extragenital locations. However, the occurrence of oral cavity disease is increasing due to a greater incidence of oral sexual practices, so the clinician must be alert to the risk when viewing a tonsillar lesion of unknown origin.

Mucous membrane lesions (mucous patches) may be present in secondary syphilis in as many as 20 per cent of cases and can occur alone or with other cutaneous lesions. The oral mucosa, tongue and lips, palate, pharynx, larynx, tonsils, epiglottis and aryepiglottic folds may be affected.

This paper reports on a case of bilateral secondary syphilis of the tonsil.

Case report

A 37-year-old man was admitted to the Department of Otolaryngology – Head and Neck Surgery at Udine University on March 1997, with a history of odynophagia of four weeks duration, of dysphagia and high fever (more than 39°C) treated with antibiotics (trimethoprim and sulphamethoxazole). He was single and worked as a clerk. He had complained of a sore throat approximately 10 months before receiving antibiotic therapy and recovering after a few days. Two months later he was treated with antibiotics for suspected gonorrhoea and after six months underwent HIV testing because of his sexual relationship with local prostitutes; the result was negative. On examination, whitish plaques covered both tonsils. Clinical

examination revealed bilateral tonsillar enlargement with a reddish discoloration. Bilateral biopsy was performed at superior tonsillar pole level, demonstrating a dense inflammatory infiltrate composed primarily of plasma cells with scattered lymphocytes, histiocytes, macrophages and polymorphonuclear leukocytes (Figures 1 and 2). The small blood vessels showed a perivascular lymphocytic infiltrate. The patient also developed macular reddish-brown lesions on his palms and soles (Figures 3 and 4), which varied in size from a few mm to 1-2 cm and were symmetrically distributed, surrounded by an annulet; the genitalia were found to be normal, however. Specific serological tests for *Treponema pallidum* were performed.

Treponema pallidum hemagglutination (TPHA) revealed a titre of 1:10240 and the fluorescent treponemal

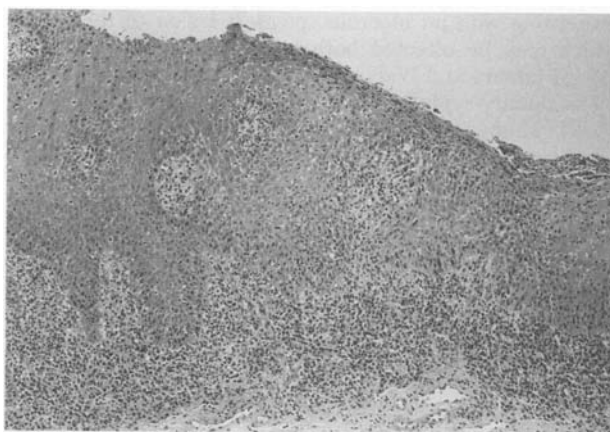


FIG. 1

Biopsy specimen of oral mucosa shows erosion. There is an intense perivascular lymphoplasmocytic inflammatory infiltrate with swollen endothelial cells. The epithelium is hyperplastic. (H & E; × 50).

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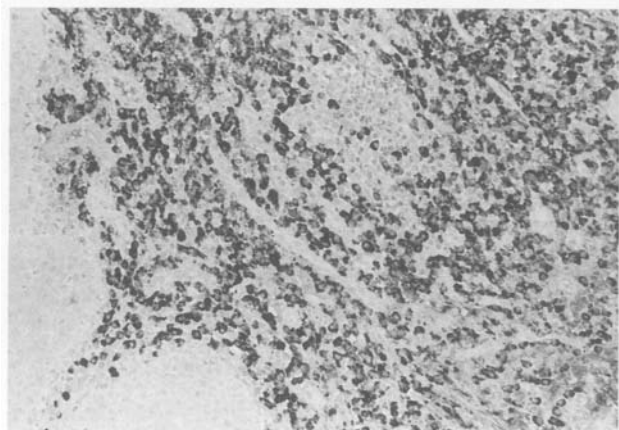


FIG. 2

Note the mucosa showing an inflammatory infiltrate composed primarily of plasma cells (H & E; $\times 100$).

antibody absorption (FTA-ABS) reaction was strongly positive. A diagnosis of secondary syphilis was reached and the patient started a course of antibiotic therapy (diaminocillin) of two weeks duration. The patient is alive and well after 14 months of follow-up.

Discussion

Antibiotic therapy has reduced the incidence of syphilis, which is not as frequent as in the past, although there was a resurgence among males during the 1970s, mainly in homosexual men with numerous sexual partners. The main anatomical sites of occurrence are the genitalia, involvement of the oral cavity is less common, but on the increase (Viers, 1981).

The greater frequency of the oral site of primary syphilis seems to be due to a greater incidence of oral sexual practices in both the homosexual and the heterosexual population (Fiumara and Walker, 1982). Clinical manifestations of syphilis can affect any site of the head and neck area (Martinez and Mouney, 1982). The most commonly affected oral sites are the lips, followed in frequency by the tongue and tonsil (McNulty and Fassett, 1981). A diagnosis of syphilis must therefore be considered in a patient presenting with an ulcerous, painless lesion of the tonsil, which may be affected both by primary syphilis (Viers, 1981; Fiumara and Walker, 1982; Ishimaru *et al.*, 1997) and by secondary syphilis (Baarsma *et al.*, 1985; Shimizu *et al.*, 1989), although the latter appears to be less frequent (Baarsma *et al.*, 1985). The spontaneous disappearance of



FIG. 3

Palms of the patient showing macular reddish-brown lesions.

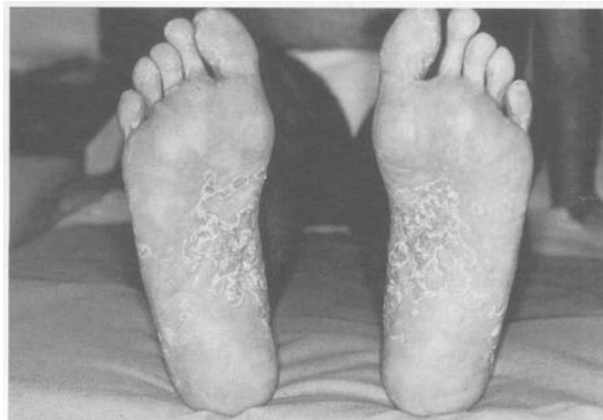


FIG. 4

Also soles are affected by cutaneous lesions of secondary syphilis.

the lesion, even without treatment, and the sometimes clinically inconspicuous tonsillar manifestations may cause the disease to be unrecognized, thus delaying diagnosis (Baarsma *et al.*, 1985).

Treponema pallidum, a member of the Spirochaetaceae family, is demonstrated in a smear from the tonsil by the Indian ink method – which fails, however, to distinguish *Treponema pallidum* from *Treponema dendritum*, a normal saprophyte of the oral cavity (Ishimaru *et al.*, 1997). Further serological investigations are needed in order to ensure a correct diagnosis, avoiding the spread of disease with consequent irreversible damage (Baarsma *et al.*, 1985; Ishimaru *et al.*, 1997). Non-specific tests such as the venereal disease research laboratory (VDRL) test and a modification of this test called the rapid plasma reagin (RPR) card test (which detect antibodies to cardiolipin in the serum) and specific tests such as TPHA and FTA-ABS (which detect antitreponemal antibodies) are used for diagnosis. The non-specific tests are inexpensive and quick to perform.

Spirochetes may be identified in tissue sections by Warthin-Starry stains and appear as elongated, thin, rod-like structures. A Warthin-Starry stain was carried out on the specimen and revealed no treponemal structures.

Conventional histochemical techniques and immunofluorescence can detect *Treponema pallidum* in skin lesions of primary and early secondary syphilis. However, in the late secondary and tertiary syphilis, conventional techniques fail to detect spirochetes, perhaps due to increasing degeneration and disappearance of treponemal spirochetes. The polymerase chain reaction (PCR) is a highly sensitive technique and increases the rate of *Treponema pallidum* detection in these lesions by amplification of specific DNA (Zoechling *et al.*, 1997).

The differential diagnosis principally includes herpetic ulcers, which are painful and reveal multinucleated giant cells in their base, and lymphogranuloma venereum, presenting with small papular lesions in association with regional lymphadenopathy (Viers, 1981). But the most important problem for an otolaryngologist observing a unilateral, ulcerative tonsillar swelling is to establish whether the lesion is malignant. In the present case, the bilateral tonsillar involvement reduced the suspicion of squamous cell carcinoma. Generally speaking, routinely pathological findings revealing a non-specific inflammation, and the more specific Parker (India) ink method showing the spirochetes may help the otolaryngologist to avoid surgical overtreatment as a result of the misdiagnosis of malignant tumour (Saruta, 1983).

The involvement of both tonsils is at variance with the data in the literature, according to which this is usually a unilateral disease, with the left side being more often affected than the right (Fiumara and Berg, 1974; Fiumara, 1976).

The treatment of choice is penicillin. For patients allergic to penicillin, other antibiotics (e.g. erythromycin or tetracycline) are effective alternatives. In particular, oxytetracycline (500 mg four times/day orally for 15–30 days) or doxycycline (100 mg two times/day orally for 15 days) are reliable treatments.

In primary and secondary syphilis, it is important to repeat serological tests for at least one year after treatment. The reasoning behind this recommendation is that the treatment with penicillin is not always effective in eradicating *Treponema pallidum*. Resistance to penicillin depends upon the difficulty of the antibiotic in reaching the site of the infection because of the scar tissue surrounding it. Confirmation of high serological titres of non-specific and specific tests after completion of adequate therapy requires re-treatment with penicillin.

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