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內文:

Introduction

Tuberculosis 是一種由G(+) *Mycobacterium tuberculosis* 造成的 chronic granulomatous, infectious disease, 它最常侵犯肺部, 如: pulmonary tuberculosis, 但也會侵犯身體的其他部位, 包括口腔。 Oral tuberculosis 最常侵犯 tongue (tip, dorsum, lateral borders, and base), 以及mouth floor, lip, cheek, soft palate, anterior tonsillar pillar, uvula, gingiva, and alveolar mucosa. lesions 的表徵可能是superficial ulcers, patches, indurated soft tissue lesions, or as central jaw lesions(tuberculous osteomyelitis).

口腔的Tuberculous lesions 通常是 secondary to lung involvement, 常發生於0.05-0.5%的老年人, primary oral tuberculous lesions 很少見, 如有, 通常發生於年輕人。

本篇是報導一位11歲的女性病患, 罹患 primary oral tuberculosis, 並以 localized diffuse gingival enlargement的表徵呈現。

Case Report

General data: 11-year-old Indian female reported to the Oral Diagnosis Clinic in the Government Dental College and Hospital in Bangalore, India

Chief Complaint: complaint of progressive, non-painful swelling of the upper anterior gingiva for the past year.

Oral examination:

1. diffuse gingival enlargement of maxillary anterior gingiva, covering up to middle third of the anterior teeth crowns extending from right to left maxillary canines
2. The color of the gingiva was reddish; surface was pebbled with no ulcerations with a minimal tendency for bleeding (Figure 1).
3. On palpation the enlargement was fibrous and was associated with pseudopockets of 6-8 mm in depth.

Differential diagnosis--Common etiologies for gingival enlargement:

- (1) inflammatory
- (2) bacterial, fungal, and viral infections

An **incisional biopsy** from the maxillary labial gingiva adjacent to the central incisors was performed.

Histopathological examination: granulomatous inflammation (Figure 2) containing Langhans' type giant cells (Figures 3a and 3b). granulomatous infection的可能性有三: tuberculous ("hard tubercle"), sarcoid, and fungal infection

由於tuberculosis是Indian population中最常造成chronic granulomatous inflammation的原因, 因此做了下面兩種檢查:

Tuberculin (Montoux) skin test (purified protein derivative, PPD): positive with a red, indurated area measuring 1.8 cm → 顯示tubercular infection

Ziehl-Neelsen (ZN) stain of tissue sample: failed to reveal acid fast bacilli (未顯示tubercular infection)

Further, a fresh tissue sample was submitted to **selective media (Lowenstein-Jensen)** of tubercle bacilli, which after 4-6 weeks → negative.

Simultaneously, **Periodic acid-Schiff and Grocott-Gomori staining** of a tissue specimen for fungi yielded negative → ruling out fungal etiology.

The **serum calcium and angiotensin converting enzyme level** was not elevated → excluding sarcoidosis.

Blood analysis: raised white cell count (12.9×10^9)

raised erythrocyte sedimentation rate (52 mm/hour).

Chest x ray: no abnormal findings excluding a primary focus of tuberculosis in the lungs.

Immunological investigation (ELISA) on serum: detect IgM, IgG, and IgA anti-*Mycobacterium tuberculosis* antibodies → positive for antibodies → suggesting but not confirming a tuberculous infection.

A polymerase chain reaction (PCR) test on the tissue sample: highly specific and sensitive to the DNA tested → positive result → 確定診斷為 primary tuberculosis presenting as a localized gingival enlargement.

Patient's family history: her brother was treated for tuberculosis two years previously suggesting he was the source of the infection.

Discussion

發生於口腔內的Chronic granulomatous lesions常不易與 tuberculosis, deep fungal infections, 或是 foreign body reaction區分。這種 lesions 也可能是Orofacial granulomatoses (nonspecific) 的其中一種症狀，包括Melkersson-Rosenthal syndrome, Miescher's chelitis, Crohn's disease, 或是 Sarcoidosis (肉狀瘤病)，但後者較少見。

Eguchi 等人提出 **PCR method** 是偵測口內 *M. tuberculosis*的必須方法。

✦Detection rate from tuberculosis p't:

PCR : mixed saliva, dental plaque, caries lesions, and denture plaque ---98.0%, 92.0%, 89.0%, and 100%

culture method : 17.3%, 2.0%, 0%, and 0%

culture techniques : less sensitive for detection of *M. tuberculosis* in tissue samples

Thus, the final diagnosis of this case was reached only after the PCR results

牙科傳染tuberculosis的途徑： alginate impressions, aerosol transmission of bacteria can occur during ultrasonic scaling and the use of air-turbine handpieces.

Gingiva的 tuberculosis 相當罕見，發生在口內的tuberculosis通常是secondary 的 pulmonary tuberculosis. 本病例是文獻報告上第一個以gingival enlargement 症狀呈現的 primary tuberculosis。

Conclusion

Tuberculosis 在Indian 的盛行率： smear-positive – 84/ 100,000 人/年。每年 460,000 人死於tuberculosis.

Tubercle bacilli最常造成 granulomatous inflammation, 如gingiva的 granulomatous enlargement. 因此，牙醫師的早期診斷及迅速的治療有助於防止 tuberculosis的散播。

題號	題目
1	侵犯頭頸部的tuberculosis以下列哪一個部位機率最高？ (A) Cervical lymph nodes (B) Larynx (C) Middle ear (D) Nasal cavity
答案 (A)	出處：Oral & Maxillofacial Pathology 2 nd ed.p.173: “The most common extrapulmonary sites in the head and neck are the cervical lymph nodes followed by the larynx and middle ear”
題號	題目
2	下列何者非Primary oral tuberculosis 常發生的部位？ (A) Gingiva (B) Mucobuccal fold (C) Extraction site (D) Tongue
答案 (D)	出處：Oral & Maxillofacial Pathology 2 nd ed.p.174: “secondary oral tuberculosis lesions are mostly present on the tongue.”