

## ORAL LOCALIZATION OF TUBERCULOSIS: CASE REPORT AND LITERATURE REVIEW

O. Nabih, S. Bouzoubaa, I. Benyahya

Department of Oral surgery, Ibn Rochd University Hospital, Casablanca, Morocco.  
Medical School of Rabat, Hassan the II<sup>d</sup> University, Casablanca, Morocco.

### ABSTRACT

Tuberculosis (TB) is caused by Mycobacterium Tuberculosis. The disease primarily affects the lungs but can involve also other organs and systems. A diagnosis was difficulty conducted on a case of primary tuberculosis concerning a 22 year old male patient who complained about having a severe pain on the left maxillary accompanied by swelling in the left mandibular angle that appeared a month later with general symptoms (fever and weight loss). The intraoral examination revealed an ulceration that is located in the buccal and palatal mucosa facing mobile 26 and 27. The panoramic radiography didn't reveal any specific character. The presence of tuberculosis was confirmed by histology.

The diagnosis and clinical presentation of the lesion is uncommon and emphasizes the importance of considering tuberculosis in the differential diagnosis of oral lesions that affects the mucosa and the gingiva.

**Keywords:** Extra-pulmonary tuberculosis, Oral localization.

### Corresponding Author:

Dr. Oussama Nabih, MD.

**Address:** Department of Oral surgery, Ibn Rochd University Hospital, Casablanca, Morocco.

**E-mail:** [Oussama.nabih@gmail.com](mailto:Oussama.nabih@gmail.com)

**Copyright © 2012- 2017.** Dr O. Nabih and all., This is an open access article published under **Creative Commons Attribution -Non Commercial- No Derives 4.0 International Public License (CC BY-NC-ND)**. This license allows others to download the articles and share them with others as long as they credit you, but they can't change them in any way or use them commercially.

### INTRODUCTION

Tuberculosis, which is considered primarily as a lung disease, can affect any part of the body [1-4] including the oral cavity.[5,6] The oral localization is a rare condition that appears in less than 1% of total tuberculosis cases[7]. Oral tuberculosis occurs frequently as a secondary infection following pulmonary tuberculosis, it can also occur as a primary infection without involving other organs[8]. It presents a problem of diagnosis. The histo-pathological study is important, making it possible to specify the nature of the lesions. The evolution is favorable under well-coded medical treatment [9].

### CASE REPORT

A 22 years old patient reported, one month ago, a pain in the left maxillary associated to swelling in the left mandibular angle. He presented weight loss, anorexia, generalized weakness and fever. No past medical and dental history was reported. The patient denied any history of trauma, toothache,

cough, hemoptysis or night sweats. Lymph nodes examination showed isolated lymphadenopathy below jaw angle, rock hard of 5 cm diameter. Clinical examination revealed poor oral hygiene and an ulceration located in the buccal and palatal mucosa (**Figures 1, 2**)The panoramic radiography didn't reveal any specific character (**Figure 3**). The biological exams previously done, including treponemal serology and HIV test were negative. The complete blood count showed no specific particularity.

An incisionnel biopsy of the lesion was performed under local anesthesia and was sent to the histo-pathological examination. Histopathology report revealed feature of granulomatous inflammation containing large langhans giant cells and caseous necrosis suggestive of tuberculosis.

Patient was referred to the infectious disease department to rule out pulmonary tuberculosis after this unusual diagnosis of the oral tissue. The chest x-ray did not reveal any foci of infections and intra-dermal reaction was negative. The saliva test was not performed. Thus, the diagnostic of primary tuberculosis was confirmed. A month after starting

anti-tuberculous therapy (rifampicin, isoniazid, pyrazinamide, ethambutol), the lesions on both sides, palatal and buccal, started to regress.(Fig 4, 5)

Nevertheless, the size of the mandibular lymph node did not diminish, as a result the patient was referred once again to the infectious disease department where a biopsy was done. The results of the sub-mandibular lymph node biopsy suggested ganglionic tuberculosis that requires dissection.

(The patient was followed up thoroughly after the treatment, yet before the diagnosis of ganglionic tuberculosis)

## DISCUSSION

Tuberculosis is an infectious disease caused by the bacillus *Mycobacterium tuberculosis*. It is mainly transmitted by respiratory route.[10]

Although mortality from tuberculosis has fallen by half since the 1990s, it remains a leading cause of death worldwide by lying second after infection with the human immunodeficiency virus (HIV).[11]

Tuberculosis can involve any organ system in the body. Sites most often involved outside the pulmonary parenchyma are in decreasing frequency: lymph nodes, pleura, uro-genital tract, bones and joints, meninges, peritoneum.[12, 13]Extra-pulmonary forms are at present more frequent, because of the co-infection with HIV which favors the haematogenous spread of *Mycobacterium tuberculosis*. [13- 15]

Oral manifestation of TB affect people of all ages, especially the elderly but primary oral tuberculosis is more common in younger patients as it's the case of our patient.[10,16,17]

The tuberculous ulceration seat usually on the tongue followed by soft palate, uvula, gingiva, lips, and salivary glands in the descending order and lymphadenopathy satellite can be single or multiple, with variable size. [18,19]

In our case the ulceration was located at the gingival and palatal level with a single and unilateral adenopathy of large size.

The most frequently described clinical aspect is a chronic oral ulceration, painful with irregular edges and a slightly indurated base. The oral lesions of tuberculosis may be primitive (20 % of cases) or secondary to pulmonary localization (80 % of cases) In its primitive form : the bacillus is inoculated directly into the oral mucosa by inhalation of microdroplets of infected saliva or contact with tuberculous lesions of the skin. In the secondary form, the tubercle bacillus wins the oral

mucosa through spitting emitted during coughing or through blood or lymph. [10,20]

The inoculation of the infectious agent into the mucosa and the development of tuberculosis in the oral cavity are favored by the failure of local defense mechanisms against infection such as tissue antibodies, saliva, commensal flora and oral mucosa.[21- 23] The failure of the physical barrier of the oral mucosa may be promoted by poor oral hygiene and smoking.[21- 23]Trauma, Inflammation of the oral mucosa or dental extraction may also be factors favors.[21, 23]

The commonest presentation of a chronic ulcer, is suggestive of numerous conditions including carcinoma, traumatic or aphtous ulcers, sarcoidosis, or bacterial, viral or mycotic infections making the diagnosis very difficult to assess.[23,24]

Only bacteriological and pathological study, can clarify the tuberculous lesion by highlighting an epithelioid granuloma giant cell with caseating.[25] However in the presence of an oral form of tuberculosis even in the absence of general symptoms , looking for a pulmonary location, only contagious form of tuberculosis is mandatory. A Chest X-ray should be performed in searching of nodular opacities (tuberculous caverns). The intra-dermal reaction (IDR) to tuberculin is positive if the induration diameter (without erythema), measured after 72 hours, is greater than or equal to 5 mm.[26]

Bacteriological exam revealed traces of *Mycobacterium tuberculosis*, The classical method consists in the detection of bacilli Acid-resistant organisms (AFB) by microscopic examination (After Ziehl- Neelsen staining) or culture on Lowenstein-Jensen medium (results after 2-4 weeks).[13,27]

New methods lead to better results rapidly like liquid-based radiometric detection, techniques of hybridization with specific nucleic probes, gene amplification by PCR. [17, 31]

Despite the fact that the histopathological exams discovered some caseous necrosis, no screening for some other condition such as sarcoidosis was performed ,As a result no PCR test was performed since the Golden standard for diagnosis stay performing histo-pathological exam of the biopsy from the suspect lesion.[10,29]

The treatment of tuberculosis is medical, whatever its location. The treatment is based on a set of prescribed anti-bacillary according to defined protocols[30]. The duration of treatment of extra-pulmonary tuberculosis is, a priori, identical to of pulmonary tuberculosis. There is two phases of the treatment.

During the first(two months), the treatment associates in daily: (Isoniazid 5mg/kg/day and rifampicin 10mg/day) and pyrazinamide (20 to30mg/day) . During the consolidation which lasts at least four months,the treatment involves either daily(Isoniazid 5mg/kg/day and rifampicin 20mg/kg/day) or biweekly (isoniazid 15mg/kg x 2 / w. And rifampicin 10 mg/kg x 2 / wk).[13, 31]

However a detailed medical investigation that provides information on family history , socio - economic conditions of the patient and current medical status , with exo careful clinical and endo - oral are prerequisites for selective para-clinical explorations as radiological examination ( chest Radio ) and biological (IDR) and biopsies remain the key to diagnosis.[30]

The clinical manifestations of oral tuberculosis are non specific, Tuberculosis should evoked as a potential etiology of chronic ulcer of the oral cavity whose etiology does not appear obvious especially in the countries that are known for a recrudescence of this pathology. [32]



Figure 1 and 2: Intra oral views showed ulcerations which is located in the buccal and palatal mucosa facing mobile 26 and 27



Figure 3: The panoramic radiography reveals no specific character

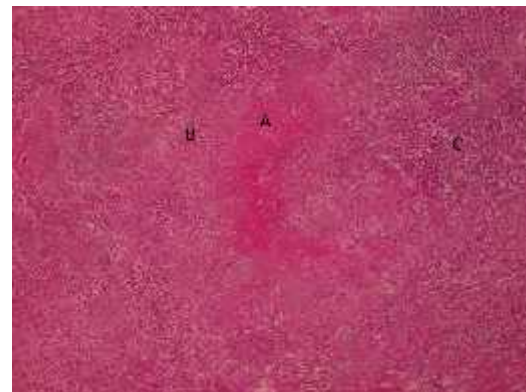


Figure 4: Microscopic appearance of caseous necrosis.(HE staining, X100 )

**A** :caseous necrosis, **B** :Aggregation of Epithelioid cells, macrophages and along with lymphocytes, **C**:Langhans giant cells



**Figure 5 and 6:** Clinical examination after 1 month of treatment

## CONCLUSION

Although rare, tuberculosis in the oral cavity should be evoked before any chronic ulceration whose etiology does not appear obvious. In order to establish the diagnosis, perform a histological examination, a bacteriological examination and culture from the biopsy of the lesion and then the search for pulmonary tuberculosis.

## REFERENCES

1. Alami B, Lamrani Y. A, Amraoui T, Boubbou M, Maaroufi M. Pulmonary Tuberculosis Sequelae: Spectrum of Radiologic Findings and Review of Literature. *Journal of Medical and Surgical Research (J Med Sur Res)* 2015; 2(2): 144- 153.
2. Alami F, El Merrouni S, Oudbib M, Abdellah E, Berraho A. Systemic Tuberculosis Revealed by Ophthalmic Manifestations. *Journal of Medical and Surgical Research (J Med Sur Res)* 2015; 2(2): 161- 162.
3. Lakhil Z, Benaich FZ, Mouine N., Zbir JK. Acute Purulent Tuberculosis Pericarditis with Cardiac Tamponade: a Case Report. *Journal of Medical and Surgical Research (J Med Sur Res)* 2015; 2(2): 157- 160.
4. Lamrani Y. A, Alami B, El Fattach H, Boubbou M, Boujraf S, Maaroufi M. Greater Trochanter Tuberculosis

: MRI Findings. *Journal of Medical and Surgical Research (J Med Sur Res)* 2016; 3(2): 256-257.

5. Ito FA, de Andrade CR, Vargas PA, Jorge J, Lopes MA. Primary tuberculosis of the oral cavity. *Oral Dis* 2005;11:50-3.
6. Vidal M, Delevaux I, André M, Marroun I, Gavet F, Voinchet H, Palat S, Kintossou R, Gilain L, Aumaître O. Tuberculose disséminée révélée par une localisation linguale. *Rev Med Int* 2007;28:124-6.
7. Chauhan V, Mahesh DM, Panda P, Mahajan S, Thakur S. Tuberculosis cutis orificialis (TBCO): a rare manifestation of tuberculosis. *J Assoc Physicians India* 2012;60:126-7.
8. Hussaini J, Mutusamy S, Omar R, Rajagopalan R and NarayananP. Base of Tongue Tuberculosis: A Case Report. *ActaMedicalIranica*, Vol. 50, No. 2 (2012)
9. Bricha M, Slimani H, Hammi S, Bourkad Ji. Chéilite tuberculeuse révélant une tuberculose pulmonaire. *Pan African Medical Journal*. 2016; 24:176
10. KAKISI O.K., KECHAGIA A.S., KAKISIS I.K., RAFAILIDIS P.I., FALAGAS M.E. (2010). Tuberculosis of the oral cavity: a systematic review. *Eur. J. Oral. Sci.* 118, 103-109.
11. Rapport de l'Organisation Mondiale de la Santé; Octobre 2015.
12. Shafer WG, Hine MK, Levy BM. Textbook of oral pathology, 6th Ed (pp. 313-7). WB Saunders Company, Philadelphia, 2011.
13. J-M d'Elbée, N. Bernard, M-A Vandenhende, D. Lacoste, F.Bonnet, C.Michaux, P.Morlat, J-C Fricain Ulcération linguale avec dysphagie à l'origine du diagnostic d'une tuberculose pulmonaire. *Med Buccale Chir. Buccale* 2012;18:39-43
14. Miziara ID. Tuberculosis affecting the oral cavity in Brazilian HIV-infected patients. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2005;100:179-82.
15. Wood NH, Chikte UM, Khammissa RAG, Meyerov R, Lemmer J, Feller L. Tuberculosis. Part 1: pathophysiology and clinical manifestation. *SADJ* 2009;64:270-3.
16. Kumar S., Sen R., Rawal A., Dahiya R.S., Dalal N., Kaushik S. Primary lingual tuberculosis in immunocompetent patient: a case report. *Head Neck. Pathol.* 4, 178-180. (2010).
17. B Capitano de Souzaa, V M Aita de Lemos, M C Munerato. Oral manifestation of tuberculosis: a case-report. *Braz J Infect Dis* . 2 0 1 6;2 0(2):210–213
18. Neelam.N, Andrade.J, Tejas.SOral Facial Tuberculosis *J.Oral Maxillo-FacSurg* e12-e22,2012
19. Shafer WG, Hine MK, Levy MB. 4th ed. Philadelphia (US): WB SaundersCo; 1983. A textbook of oral pathology; pp. 340–440.
20. T. Mohanapriya, K. Balaji Singh, T. Arulappan and T. Dhanasekar LINGUAL TUBERCULOSIS *Indian J Tuberc* 2012; 59: 39 – 41
21. Iype EM, Ramdas K, Pandey M, Jayasree K, Thomas G, Sebastian P, Nair MK. Primary tuberculosis of the tongue: Report of three cases. *Br J Oral Maxillofac. Surg.* 2001, 39(5):402–403.
22. Pekiner FN, Erseven G, Borahan MO, Gümürü B. Natural barrier inprimary tuberculosis inoculation: oral mucous membrane. *Int JTuberc Lung Dis* 2006;10:1418.

23. R Béogo1, M Millogo, A S Ouédraogo, I Traoré, K Ouoba. Tuberculose de la cavité buccale révélant une tuberculose pulmonaire : à propos d'une observation Med Buccale Chir Buccale 2013 ; 19:183-185
24. Vidal M, Delevaux I, André M, Marroun I, Gavet F, Voinchet H, Palat S, Kintossou R, Gilain L, Aumaître O. Tuberculose disséminée révélée par une localisation linguale. Rev Med Int 2007;28:124-6.
25. Peck MT, Stephen LX, Marnewick J, Majeed A. Palatal ulceration as the first sign of pulmonary tuberculosis: a case report. Trop Doct 2012;42:52-3.
26. Yepes JF, Sullivan J, Pinto A. Tuberculosis: medical management update. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2004; 98:267-73.
27. Nachbar F, Classen V, Nachbar T, Meurer M, Schirren CG, Degitz K. Orificial tuberculosis: detection by polymerase chain reaction. Br J Dermatol 1996;135:106-9. 10.
28. Komiyama K, Horie N, Yoshimura M, Okaue M, Tsuchiya H, Tajima M. Rapid diagnosis of oral tuberculosis by amplification of Mycobacterium DNA from paraffin embedded specimens. J Oral Sci 1998;40:31-6.
29. Neme RM, Iano i ES, Pop CS, Postolache P, Streba CT, Olteanu M and all. Tuberculosis of the oral cavity Rom J Morphol Embryol 2015, 56(2):521–525
30. Ajay GN, Laxmikanth C, Prashanth SK. Tuberculous ulcer of tongue with oral complications of oral antituberculosis therapy. Indian J Dent Res 2006; 17: 87–90.
31. Elfahsi A, Elayoubi A, Boulaadas M, Nazih N, Essakali L, Kzadri M. Tuberculose buccale : à propos d'un cas Med Buccale Chir Buccale 2007; 13: 83-86.
32. Gupta PP, Fotedar S, Agarwal D, Sansanwal P. Primary tuberculous glossitis in an immuno-competent patient. Hong Kong Med J 2007; 13: 330–331.