

# A Case of Intra-Oral Bone Exposure of the Hard Palate: A Clinical Diagnostic Dilemma <sup>†</sup>

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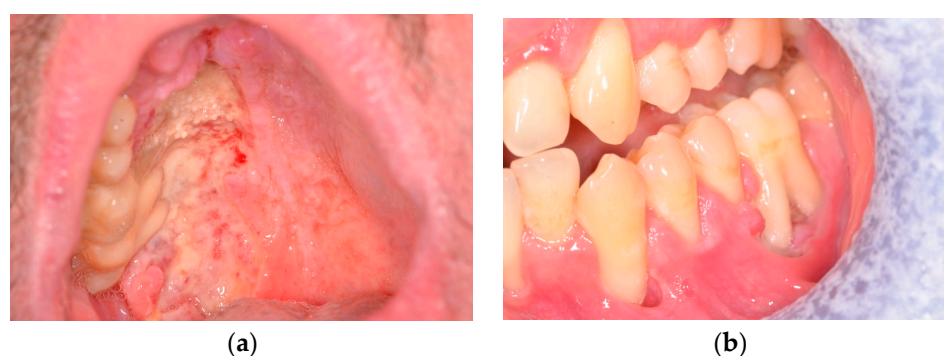
Osteonecrosis or aseptic and avascular necrosis of the jaws (ONJ), has been defined as an area of intra-oral and/or extra-oral exposed bone and may result in significant patient morbidity. In the last period osteonecrosis of the jaws related to Bisphosphonate (BRONJ) and, recently, Denosumab related osteonecrosis of the jaws (DRONJ) and other medicaments such as antiangiogenic agents (MRONJ) have been abundantly reported [1], but different etiologies may cause a maxillo-mandibular osteonecrosis. In the present report we describe the case of a patient affected by Crohn's Disease referred to Department of Biomedical and Neuromotor Sciences, unit of Oral Medicine, University of Bologna on September 2108 for the presence of a painful lesion in the hard palate. His medical history revealed a diagnosis of Crohn's disease in 2016. Medical treatment with mesalazine, prednisone and later with adalimumab and infliximab didn't significantly improve the clinical condition of the patient. In June 2018 a surgical resection of intestinal tract affected by Crohn's disease was performed. Finally, in July 2018 a laboratory test revealed a positivity for HLA B51, a genetic marker related to Behcet's disease.

In the clinical examination we revealed the presence of a 3–4 cm of painful bone exposure in the right side of hard palate and presence of a generalized severe periodontitis (Figure 1a,b). In this patient various local or systemic phenomena might take part in osteonecrosis of the oral cavity. ONJ may be related to adalimumab and/or infliximab therapy, 2 anti TNF- $\alpha$  antibody used to treat Crohn's disease and other autoimmune diseases. Few authors reported a relationship between infliximab and/or adalimumab therapy and appearance of ONJ [2–4]. In this particular case the area of exposed bone didn't appear after a surgical odontostomatological procedure, but the patient showed a severe generalized periodontitis, a well known ONJ risk factor. Chronic osteomyelitis, a rare infection of the medullary portion of the jawbone with purulent exudate related with immunocompromised conditions of the patient, was the second considered hypothesis. Finally, oral manifestation of systemic condition was the third hypothesis, even if an intra-oral osteonecrosis is not a typical oral manifestation Crohn related.

Different clinical and instrumental investigations were performed. An incisional biopsy in the hard palate was scheduled. At histology, Hematoxylin Eosin stained sections revealed acanthosis, hyperkeratosis and the presence of a dense trans-mural non necrotizing granulomatous chronic inflammation. PAS staining methods and additional colorations with Ziehl Neelsen and Giemsa did not reveal fungal, bacterial or parasite presence. A CT scan showed a massive maxillary bone loss in the right hard palate region without maxillary sinus involvement. Clinical investigations were also performed with the aim to reconsider the initial diagnosis of Crohn's disease. Indeed, HLA-B51 positivity is strongly related to Behcet's Disease [5] and when the gastrointestinal tract is involved, a differential diagnosis between Behcet's Disease and Crohn's Disease may be very difficult [6]. Clinical systemic investigations revealed multiple ulcers in ipo-pharyngeal and laryngeal tract and a painful

purulent ulceration on the skin, diagnosed as Pyoderma gangrenosum. At the same time, the patient didn't show ocular and genital ulcers and pathergy test was negative. Unexpectedly, in the 18th of October 2018 patient presented a fatal cardiovascular complication and died. Parents refused the autopsy.

Unfortunately, in this case the formulation of a definitive diagnosis consistent with the clinical presentation and a consequent treatment plan was not possible. Diagnosis of multisystemic inflammatory conditions is based on clinical findings and different Crohn's disease manifestations are similar to Behcet's Disease manifestations. Diagnosis of MRONJ is also based on clinical findings and few informations still exist about the exact relationship between biological agents and ONJ. In the future presence of specific pathognomonic laboratory tests may be fundamental in cases with multiple comorbidities to avoid a delay in diagnosis and treatment.



**Figure 1.** Presence of intra-oral bone exposure in the right side of the hard palate (a) and presence of a severe generalized periodontitis (b).

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