

Von Recklinghausen's Disease - Diagnosis from Oral Lesion. Neurofibromatosis I

Enfermedad de Von Recklinghausen - Diagnóstico desde la Lesión Oral. Neurofibromatosis I

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ABSTRACT: A 35 years-old male patient was referred to your Institution due to a nodule on the palate with more than 15 years of evolution. In general physical examination noticed the presence of papules and café au lait (coffee with milk) pigmentation in many parts of the body. Intra oral examination found a swelling in the hard palate and resilient on palpation, asymptomatic with three centimeters of diameter. Incisional biopsy was performed and the diagnosis was neurofibroma. Complete resection of the lesion was performed confirming the initial diagnosis. The general clinical findings and the presence of neurofibroma confirmed the diagnosis of Von Recklinghausen's disease. This paper emphasizes the important role of the dentist in diagnostic and follow-up of the Von Recklinghausen's disease.

KEY WORDS: Von Recklinghausen's disease, neurofibromatosis 1, neurofibroma.

INTRODUCTION

The neurofibromatosis type 1 (NF1) was first described by Von Recklinghausen and Festscher, and has been known as the Von Recklinghausen's disease also (Nagata, 2006). It is inherited as an autosomal dominant trait, therefore, is a hereditary condition. At least eight forms of neurofibromatosis have been recognized, but the most common is the (NF1), with a prevalence of 1:2200 to 3000 births (Friedman *et al.*, 1999). About 50% of NF1 patients have no family history of the disease (Crowe *et al.*, 1956; Riccardi, 1992). Also there is no prevalence for gender or race in NF1 (Bongiorno *et al.*, 2006).

The signs and symptoms of this condition vary widely among affected people. The most common sign on the skin are multiple neurofibromas that can occur anywhere in the body. Another highly characteristic feature on the skin is the presence of café au lait (coffee with milk) pigmentation. Lisch nodules (pigmented hamartomas of the iris), translucent brown-pigmented

spots on the iris, are found in nearly all affected individuals. Bone lesions, cardiovascular and neurological abnormalities are others manifestations of this disease (Alwan *et al.*, 2005). Abnormalities that involve neurological system includes central nervous system tumours, macrocephaly, mental deficiency, seizures, short stature and scoliosis (Neville *et al.*, 2004).

Oral manifestations may occur in this disease as high as 72% to 92% of all cases, especially if a detailed clinical and radiographic examination is performed. The most commonly affected sites are the tongue and buccal mucous (Neville *et al.*). Severe hemifacial disfigurement is almost always caused by a plexiform neurofibroma of the trigeminal nerve. The presence of impacted, displaced or missing teeth, particularly in the mandible, and overgrowth of the alveolar ridge are recognized oral manifestations of NF1. 20 to 60% of oral neurofibromas are associated

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with neurofibromatosis. Oral neurofibromas are present in about 25% of neurofibromatosis patients. Gingival affectation is rare. Oral radiographic findings include an enlarged mandibular canal, mandibular foramen and mental foramen. Neurofibroma can also develop intraosseously, resulting in well demarcated unilocular, but occasionally multilocular, radiolucent lesions (Gorlin *et al.*, 1990).

In this case we report a patient that received the diagnostic of neurofibromatosis type 1 (NF1) due to an oral manifestation.

A 35 years-old male patient was referred to your Institution due to a nodule on the palate with more than 15 years of evolution. In general physical examination noticed the presence of papules and café au lait (coffee with milk) pigmentation in many parts of the body (Figs. 1A, 1B e 1C). Intra oral examination found a swelling in the hard palate, resilient on palpation with an intact surface epithelium, asymptomatic and measuring three centimeters in diameter (Fig. 1D). The patient had poor hygiene condition, with many caries lesions, dental calculi and severe periodontal disease. Panoramic radiography showed the bad oral condition described and an enlarged mandibular canal, mandibular foramen and mental foramen (Fig. 2).

CASE REPORT

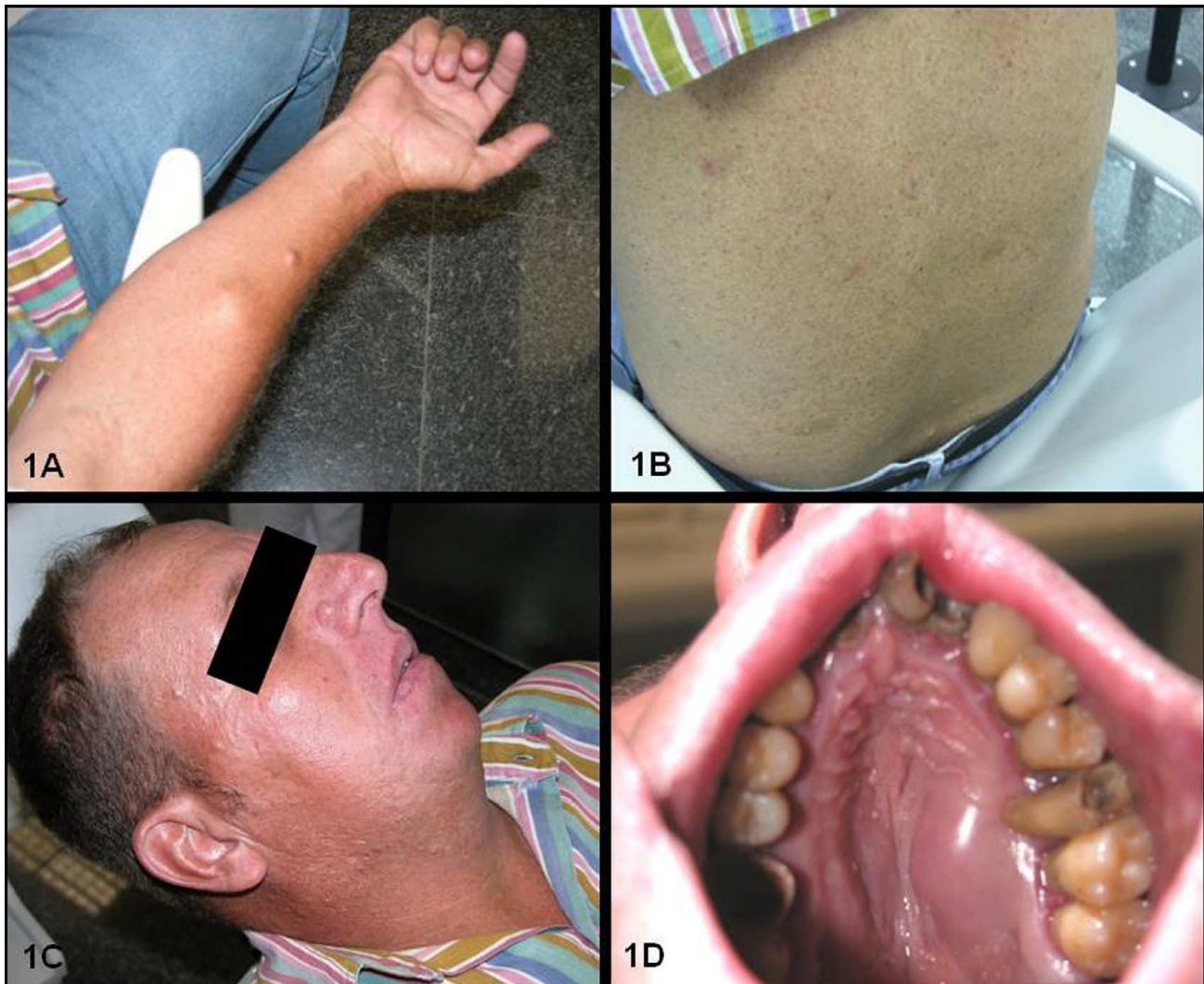


Fig. 1. Presence of papules and café au lait pigmentation in many parts of the body as arms (A) coast (B) and face (C). The lesion in the hard palate, resilient on palpation, with an intact surface epithelium, asymptomatic and measuring three centimeters in diameter (D).



Fig. 2. Panoramic radiography showing the bad oral condition related and an enlarged mandibular canal, mandibular foramen and mental foramen.

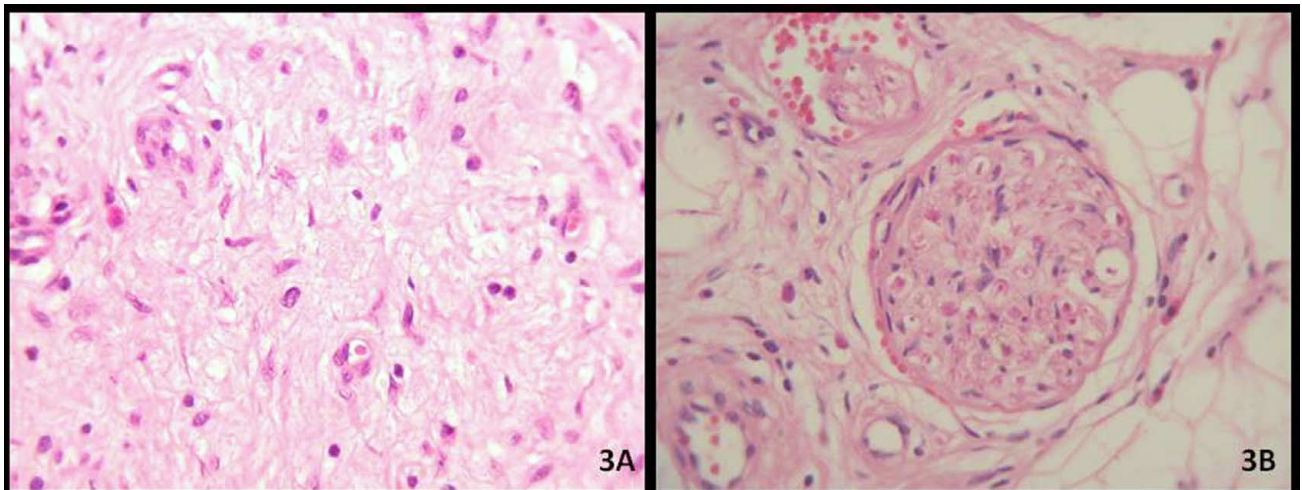


Fig. 3. Microscopically is observed fusiform cell proliferation with elongated sinuous nuclei separated by an abundance of slim collagen fibres (A) with intimate contact with innumerable neural tissue (B). There were scattered mast cells within the connective tissue. HE:4X; 10X respectively.

Incisional biopsy was performed. Microscopically was observed fusiform cell proliferation with elongated sinuous nuclei separated by an abundance of slim collagen fibres with intimate contact with innumerable neural tissue. There were scattered mast cells within the connective tissue (Fig. 3). The diagnosis was neurofibroma. Complete resection of the lesion was performed and confirmed the initial diagnosis.

The general clinical and radiographic findings and the presence of an oral neurofibroma confirmed the diagnosis of Von Recklinghausen's disease. The patient did not relate any similar case on his family, probably it is a case of spontaneous mutation.

DISCUSSION

NF1 is usually diagnosable clinically by its cutaneous manifestations and family history. NF1 is diagnosed in an individual with two or more of the following signs: café au lait macules, two or more neurofibromas of any type or a single plexiform neurofibroma freckling in the axillary or inguinal region and optic glioma. Café au lait macules are often the first manifestation of NF1 in an infant and occur in >90% of NF1 patients. These hyperpigmented macules are typically oval shaped with smooth regular borders although at times they may be very large, involving a significant body segment. In 1956, Crowe *et al.*,

suggested that 6 café au lait macules, each greater than 1.5 cm in size, with neurofibromatosis were essential to perform a diagnosis of VRN (Gorlin *et al.*, 1990). Lisch nodules, a distinctive first degree osseous lesion, and skeletal abnormalities occur in almost 40% of patients with this disease (Weiss & Goldblum, 2001).

Oral manifestations of this disorder are rarer showing an incidence ranging from 4 to 7% in most series of different authors. The most frequent involvement site in oral neurofibromatosis is the tongue, followed by the oral mucosa and floor of the mouth, therefore, palate and maxillary-mandibular bones are a rare localization of the disease (Tripi & Bonaccorso, 1998). Impacted, displaced or missing teeth, paresthesia, pain, and bleeding are infrequent manifestations that may occur in association with neurofibromas in the oral cavity (Lammert *et al.*, 2007). Early oral lesions may not be identified due to the clinicians failure to focus attention on possible intraoral anatomical changes. Symptomatic lesions are more readily diagnosed when a patient complains of mass or other discomfort, which will guide the clinician to the primary lesion (Weiss & Goldblum; Tripi & Bonaccorso).

Edwards *et al.* (2006), described a case report of a 12 years-old patient which presented significant palatal expansion. The lesion crossed the midline, and extended to soft palate and buccal vestibule. The patient medical history was significant for NF1, diagnosed when the patient was 3 years old. He was the only child of unaffected parents. At this case the diagnostic was performed earlier by the medical physician, in contrast with our case in which the Dentistry performed the diagnostic of neurofibromatosis type 1 due to a hard palate alteration.

Despite the advances of molecular biology, the diagnoses of NF1 and NF2 are still based on clinical criteria. The National Institute of Health Consensus Development Conference originally established the diagnostic criteria for NF1 and NF2 in 1987 (Gutmann *et al.*, 1997).

It is unusual that the first professional to seek the diagnoses of neurofibromatosis type 1 is from Dentistry area. Your findings included papules and coffee with milk pigmentation since the childhood and 15 years of evolution of palate lesion. The authors believe that the later diagnoses of the lesion was due to the patient lack of search for treatment living in the rural area and undesirable social-economic conditions, which prevented him to seek for early treatment.

Occasionally, oral manifestations and oral tissue specimens may provide the opportunity to diagnose NF. The oral manifestations of NF are well-documented but may not be at the forefront of the clinician's mind in the differential diagnosis of intraoral swelling (Bongiorno *et al.*).

There is no specific therapy for neurofibromatosis, and treatment often is directed toward prevention or management of complications. One of the most feared complications is the development of cancer (5% to 15% of patients), when the removal of the lesions becomes indicated (Neville *et al.*). When oral lesions characteristics of NF-I are present, the patients must be reviewed in the long term because of eventual complications, especially of malignant transformation. It is important that oral and maxillofacial surgeons and dentists follow-up this disease (García de Marcos *et al.*, 2007).

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RESUMEN: Un paciente hombre de 35 años de edad fue remitido a la Institución, debido a un nódulo en el paladar con más de 15 años de evolución. En el examen físico general, notaron la presencia de pápulas y pigmentaciones café au lait (café con leche) en muchas partes del cuerpo. Al examen oral intra se encontró un aumento de volúmen en el paladar duro resistente a la palpación, asintomático, con tres centímetros de diámetro. Se realizó la biopsia incisional, y el diagnóstico fue neurofibroma. La resección completa de la lesión confirma el diagnóstico inicial. Las conclusiones clínicas generales y la presencia de neurofibroma confirmó el diagnóstico de la enfermedad de Von Recklinghausen. Este trabajo destaca el importante papel del odontólogo en el diagnóstico y seguimiento de la enfermedad de Von Recklinghausen.

PALABRAS CLAVE: enfermedad de Von Recklinghausen, neurofibromatosis 1, neurofibroma.

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