A Case Report of a Facial Skin Lesion of Dental Origin

Abstract
Chronic inflammation due to periapical abscess can drain into the mouth or outside of the skin through sinus tract. In this last, it may be difficult to differentiate the opening of the fistula from primary skin conditions by the general physician who wrongly refers patients to dermatology, being a main issue of dentist.

Keywords: Cutaneous fistula; Periapical abscess; Skin carcinoma; Sinus tract; Differential diagnoses; Endodontic treatment

Introduction
Periapical abscess may be due to cavities or trauma are a highly common cause of intraoral fistulas, and in a less frequent occurrence extraoral fistula, which drain directly onto the skin [1, 2]. This last is rare, but easily misdiagnosed due to the amount of differential diagnoses which may be mistaken, for so patients could undergo unnecessary antibiotic therapy, allowing the infection to be chronic [3, 4]. Fortunately, life threatening complications such as osteomyelitis and sepsis are not very common [5, 6]. Whenever a patient has a facial or cervical fistula, it is mandatory a complete oral exploration looking for an odontogenic abscess besides a fibrous tissue (fistula) on the mandibular angles, cheeks or chin that connects jugal with gingival mucosa, causing the skin retraction [7-9]. It is necessary to be corroborated the periapical infection with a panoramic x-ray, or it may be done by drawing the sinuous tract with radiopaque material such as gutta percha, and then takes the x-ray [10-12]. Therapy consists of treating the underlying infection, which may be with endodontic treatment, which can be saved, or if the piece is completely useless, it is best to remove, along with its fistulous tract [1-4]. This article describes the case of a patient who was wrongly referred to dermatology for surgical resection of a probably basocelular carcinoma on the cheek, based on the presence of retraction in the skin and lack of oral symptoms. This manuscript should help guide the general physician to understand that cutaneous lesion could be the consequence of dental pathology, and this way make the right derivation for odontological treatment [12].

Case Report
79 year old male, born and raised in Antioquia, with a personal history of prostate carcinoma and undergoing oncological treatment with leuprolide acetate, whom was referred to a dermatology department for a biopsy of a lesion on his right cheek, thought being malign. During anamnesis the patient described a lesion on the right cheek approximately the last 3 years, completely asymptomatic and had no relation to any other personal medical history. Also, he said he was partially toothless. In the physical examination, it was noticed a facial orifice on the cheek with a retraction of the surrounding skin (Figure 1). An oral exploration once the patient took of the dental prostheses revealed one original right canine and a right premolar, also present it could be seen a fibrous tract that coincided with the retracted skin lesion and connected the right jugal with the gingival mucosa at the level of the inferior premolar. There was cavities and abfraction of the same exact dental piece, nerve root being completely exposed (Figure 2). Based on these findings, the patient was referred to stomatology to have the fistula treated. Panoramic x-ray identified periapical radiolucency in tooth number 44 and fillings in pieces 43 and 44 (Figure 3). The patient is now waiting endodontic treatment.
Discussion

Cutaneous dental fistulas are not a common dermatological subject, being the reason why is misdiagnosed by dermatologist and surgeons. A study published by Miri et al. [13] which was realized in Iran in 1,527 patients with a personal history of endodontic treatment, it was found a frequency of a sinus tract of 9.9% in contrast with another study reported by Sadeghi et al. [14] in 2011 in a very similar population with the same procedure and under canalicular therapy, in 728 patients it was set a prevalence of 14.7% [13,14] submitting the patient to unnecessary antibiotic treatments, biopsies, resections, and even radiotherapy, with a not so favorable outcome and a recurrence of the fistula [1-3]. Patients with or cutaneous fistulas it has been thought that odontocutaneous fistulas are more frequent in children and adolescents, due to the fact that the alveolar processes are not fully developed, although, it has been seen in patients older than 20 years of age [9]. The average of the patient age varies: Sadeghi et al. [14] reported an age range of 10-69 years; in the Guevara et al. [15] study the mean was 45 years with a higher presentation of sinus tracts in patients older than 51 years. In the Slutzky et al. [16] the mean was 16 years [14,15].

According to gender, the presence of odontocutaneous fistulas can vary: Guevara et al. [15] found 53% of women with this condition and Miri et al. [13] in a 9.1% and Huang et al. [17] in 45.3% of women, meanwhile; Sadeghi et al. [14] did not find significant differences between men and woman [13-17]. Initially, cavities due to microorganisms such as Fusobacterium nucleatum sp. Vicentii, orphyromonas gingivalis Veillonella parvula, Enterococcus faecalis, Campylobacter graccalis and Neisseria mucosa invade the tooth through the enamel and dentin, infecting the pulp causing necrosis, periodontitis and formation of the periapical abscess, rich in anaerobic bacteria. Usually this process is acute and renders the patient to seek medical attention [4-18]. With the passing of time between six months and 30 years, added to the partial and complete necrosis, periodontitis and formation of the periapical abscess, rich in anaerobic bacteria [8-22]. Ultrasonography and CAT scans may be useful, but not necessary for diagnostics. If the biopsy material was sent to the lab the findings would be granulomatous tissue, pseudoeumophlebomatous hyperplasia and chronic inflammation [23-26]. Usually it can misguide the diagnostics, as there are other entities that can generate fistulas, pyogenic granuloma, salivary gland fistulas, congenital fistulas, infected cysts, deep mycosis infections, actinomyces, thyroid cyst, furuncles, reactions to foreign bodies, skin carcinomas such as basal cell and squamous cancer; inverted follicular keratosis, dacyrocytitis, supplicative lymphadenitits, tertiary syphilis and tuberculosis [27,28]. Rarely periapical abscess and fistulas generate complications, as mentioned before, osteomyelitis and sepsis [6]. Treatment consists of the elimination of the infectious agent through endodontic work if the piece can be recovered, in 12.7%
of cases [21]. If it cannot, it is best to remove it and complete
resection of the fistula as well. There should be administration of
systemic antibiotics if the patient is diabetic, immunosuppressed
or has signs of systemic infection [26-29]. Once the infection
is treated the sinus tract will heal in 5-14 days and closes by
secondary intention, but the esthetic results are not so favorable;
patients present scaring and depressions of the skin, which is why
it is always recommended surgical removal of the fistula [9].

Conclusion

It is very important to have a clear understanding and suspicion,
as well as a very detailed medical history and an oral and physical
exam, no matter whose patient it is. An initial dental work-up
would have avoided this patient unnecessary dermatology visit
and instead he could be directly referred to stomatology.

Acknowledgement

None.

Conflict of Interest

All authors declare no conflict of interest.

Patient Consent Form

Patient agreed with his case report and came back to
dermatology to provide stomatology’s clinic register and x-ray
studies.

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