



Oral Piercing as a Risk Factor for Complications After Periodontal Surgical Procedures: A Case Report

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Abstract

The search for individual aesthetic satisfaction may, in some situations, promote health risk. As an example, we observe the use of body piercings in the young population. In the oral cavity or stomatognathic system, piercings may cause injuries to soft tissues and teeth. Simultaneously, systemic damage may be generated. The purpose of this article is to present the case of a patient with piercings in the oral cavity who underwent gingivectomy. Before the surgical procedure, the patient was oriented about the possible risks to her oral health and post-surgical complications. Preventively, it should be part of the conduct of the dental surgeon, the removal of adornments. When removal is not accepted, patients should be oriented about oral hygiene procedures, preventively to avoid further complications.

Keywords: Body Piercing; Body Piercing/Utilization; Body Piercing/Adverse Effects; Oral Cavity

Introduction

Historically, the use of body ornamentation comes from ancient civilizations, representing social, cultural and religious values. Several societies, among them Egyptians, Chinese, Hindus, Mayans and Amazonian indigenous people used ornaments on various parts of the body, including the oral cavity and teeth [1-6].

Today, mouth piercings are a phenomenon that affects the world population, particularly the younger ones [7,8]. Alarmingly, the use of piercings has been observed in the 11 to 14-year-old population [8].

Mouth piercings are made of several materials, including stainless steel, surgical steel, silver, gold, titanium, acrylic and polytetrafluoroethylene. Among the types of piercings, the labial button and the translingual bar can be observed. The labial button presents

two barbels, one extraoral and the other intraoral, crossing the lip [3,7,9,10]. The translingual bar also has two barbels, crossing from the dorsum to the lingual belly [3,7,11,12].

Piercings can be found in several regions of the body, including eyebrows, ears, nose, peri-umbilical region and genitals of both sexes. In the oral cavity, piercings are observed in the lips, tongue, frenum, cheeks and uvula [1-3,5,7,8,10-18].

The conduct of the dental surgeon is essential for the maintenance of oral health, favouring and collaborating with the systemic health of patients. The purpose of this article is to present the case of a patient with piercings in the oral cavity who underwent gingivectomy. Before the surgical procedure, the patient was oriented about the possible risks to her oral health and post-surgical complications.

Case Report

An African-descendent female patient, 33 years-old, attended to the private clinic for dental treatment.

In the face, several piercings were observed in the zygomatic region, ears and nose (Figure 1). In the oral cavity, piercings were observed in the upper lip and upper labial frenum (Figure 2 and 3).



Figure 1: Piercings observed in the zygomatic region, ears and nose.



Figure 2: Piercings observed in the upper lip (extraoral view).



Figure 3: Piercings observed in upper lip and upper labial frenum (patient smiling - extraoral view).

Clinically, the piercing on the upper labial frenum and inflammatory halo on the labial mucosa of the upper lip adjacent to barb of the piercing were observed (Figure 4).



Figure 4: Piercings observed in upper lip and upper labial frenum (intraoral view). Observe the inflammatory halo on the labial mucosa of the upper lip adjacent to barb of the piercing.

One of the main complaints reported by the patient was the marked exposure of the gingiva during smiling. The gingivectomy technique was proposed to increase the dental zenith. The characteristics and particularities of the procedure were explained, and the patient agreed and signed the consent form for the procedure. However, the negative and dangerous influence of the positioning of the upper lip piercings and the upper lip frenum on the gingivectomy region was noted (Figure 5). The patient was oriented regarding the risk of the permanence of the two piercings, and removal was recommended. The patient allowed the removal.



Figure 5: Discrete gingival overgrowth and negative influences on the gingiva.

Under local anesthesia, the gingivectomy was performed using an electric scalpel. The teeth presented new dental zeniths, increasing the length of the teeth (Figure 6). Analgesic and anti-inflammatory drugs were prescribed in the postoperative period.



Figure 6: Gingivectomy by electric scalpel: immediate postoperative view.

After 30 days, the patient was evaluated. Complete gingival healing was observed. No complaints or complications were reported. The patient considered the result satisfactory. Despite the orientation in favour of removing the piercings, the patient returned to wearing it (upper lip). However, the patient considered the risk of using the labial frenum piercing and stopped using it (Figure 7). The patient was instructed on how to care for the region and the piercing.



Figure 7: Complete gingival healing (after 30 days). The patient returned to wearing the upper lip piercing.

Discussion

Several complications and disorders in the oral cavity or stomatognathic system have been cited, among them:

- Pain and edema, caused by the inflammatory process [3,7,8,10];
- Formation of granulation tissue, hyperplastic lesion or keloid due to the inflammatory process [1,3,5,7,10,12,14-16,21,23,28];
- Difficulty in phonation and swallowing [3,7,8,10];
- Allergic reactions due to contact with the piercing, particularly by oxidation of heavy metals released by the piercings in contact with saliva [3,7,10,14-16,24-26];
- Development of galvanic current between the metal piercing and metal restorations, causing dentin hypersensitivity, paresthesia, sialorrhea and discomfort [3,7,10,14-16,27];

- Fractures, cracks, abrasions and wear on adjacent teeth [1-3,7,8,10,12-14,29,30];
- Periodontal lesions and gingival retractions due to contact and trauma [1-3,7,8,10,12-16,19,21];
- Accumulation of dental biofilm on the piercings [1,3,7,8,10,18,21,29,30].

Regarding possible systemic alterations, the following have been reported:

- Bacteraemia, septicaemia and endocarditis [1-3,5,7,8,10,14-16,21];
- Ludwig's angina [1,3,10,14-16,19,20];
- Hemorrhagia [1-3,7,8,10,14-16,21-23];
- Leukocyte changes [23];
- Risk of ingestion or aspiration of the piercing [3,7,10,14,15];
- Risk of transmission of fungal (*Candida albicans*) and viral infections (HIV, hepatitis B, C, D and G, herpes simplex and Epstein-Barr virus) [1,3,5,7,10,14-16,32].

Care should be taken in the installation of piercings, especially in relation to biosafety and lack of anatomical and physiological knowledge, on the part of professional technicians who work in this practice [3,9,10,21]. In this perspective, the dental surgeon should explain to the patients the possible risks and complications, as well as the removal of these ornaments, how was it performed by us.

From the periodontal perspective, a significant relationship has been observed between mouth piercings and the incidence of gingival retractions [1,8,19]. Frequently, gingival retraction was observed on the lower anterior teeth in patients with mouth piercing in the median region of the lower lip. Mouth piercings increase 7.5 times the chance in causing gingival retraction [1,3,7,8,14,18]. Thus, mucogingival surgical procedures (reconstructive surgeries) in gingival defects (retractions) caused by piercings have become frequent in clinical dental practice [1,3,7,10,14,18]. The orientation for removal of piercings from the oral cavity must be part of the conduct of dental surgeon. In the present report, the patient was instructed to remove both upper lip and the labial frenum piercings in order to avoid friction between them during the

healing phase in the post-surgical period. After the healing process, the patient returned to use the upper lip piercing. The agreement to remove the upper lip frenum piercing was understood by the patient and justified by the increased risk of rupture of the frenum mucosa and possible bleeding.

In patients who are resistant and unwilling to remove oral piercings, the presentation of clinical injuries and systemic risks may be considered a persuasive factor. When removal is not accepted, the dental surgeon must guide the patient about care and mainly oral hygiene of the adornments. Before handling oral piercings, it is necessary to take care with personal hygiene - hand washing - to avoid infections. The use of alcohol or peroxide based mouthwashes must be discouraged, as they may dehydrate the adjacent mucosa. Orientation regarding the replacement of the metallic material by another, such as polytetrafluoroethylene, may be suggested to the patient. Polytetrafluoroethylene is a lighter and flexible material, which can avoid injury to the soft tissues and adjacent teeth [3,14-16].

When piercings are installed, administration of analgesic, anti-inflammatory and antibiotic drugs may become necessary [3,10,20,22,23,28,33].

An important fact to be highlighted is the increasing incidence of oral piercings in the juvenile population. In the United Kingdom, after the death of a teenager in 2002, the competent authorities in oral and general health determined specific legislations for this practice, besides the licensing and registration of piercing establishments. The British Body Piercing Association determined initial guidelines on body piercing; verification of medical history of the patients; recommendations on cross-infection in piercing studios; and above all, parental authorization for the performance of piercing in minors [7]. In view of the increasing incidence of piercings, particularly in the younger and vulnerable population, other countries should adopt these guidelines.

Conclusion

Oral piercings may lead to several local and systemic complications, including hindering dental procedures. Initially, it should be part of the conduct of dental surgeon, the orientation to patients not to install the adornments in the oral cavity. When already installed, the removal of the piercings must be recommended. In last case, if the patient does not accept the removal of the piercing, the dental surgeon must present an oral hygiene protocol for piercings.

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