CHAPTER 24

Porcelain veneers, minimally invasive dental treatment in the antero-upper segment: case report

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ABSTRACT
Aesthetics today is an important part of social and professional relationships. Ceramic restorative treatments free of metal or metal core have allowed us to advance in aesthetic results, especially in the anterior area where more aesthetics are required. Porcelain veneers are a restorative treatment that has proven its worth after many years of clinical use, especially in the anterior sector due to its aesthetic implications, with success rates close to 95%.
The objective of this presentation is porcelain veneers as one of the adhesive reconstructive treatment alternatives that provide excellent dental aesthetics with minimal removal or wear of dental tissue.

Keywords: Porcelain veneers, veneers, dental aesthetics, metal-free ceramics.

1 INTRODUCTION

We currently live in a society that is increasingly obsessed with aesthetic appearance, often imposing this aspect on the purely professional. Patients go to their dentist looking for help. The face is the first part of the body that is seen when we interact; therefore, facial expression is the most important aspect in aesthetics since any defect can cause rejection by the observer or even, on many occasions, insecurity or complexes in the person who possesses it. This is the reason why we must offer our patients special attention in the aesthetic techniques that are being developed year after year [1,2] . Patients come to their dentist for help, often complaining of aesthetic problems that can be remedied, often with treatment limited only to prosthetic therapy. When the aesthetic compromise belongs to a more complex clinical nature, it is the Clinician's task to explain to the patient that the solution to their problem lies within a broader rehabilitation framework. Therefore, a treatment protocol must be chosen that allows formulating a good prognosis in the medium and long term, not only in aesthetic terms, but also with respect to biological and functional aspects.

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The progress of composites, as well as the evolution of ceramics, is a faithful exponent of the demands of the population. In this way, porcelain veneers have made their way among the different reconstructive techniques of the smile [3] .

Laminate veneers can present different depths of wear depending on the planning, which depends on some factors such as: the quality of the dental substrate, the color of the dental substrate, the spatial location of the tooth in the dental arch and the nature of the material itself. . [4] .The growing aesthetic need of patients, especially in recent decades with the appearance of adhesion systems to enamel and dentin, together with innovative aesthetic materials, modern application techniques and their potential for use, have given extraordinary results with the appearance of the so-called "metal-free ceramics"; This system is applied in different aesthetic treatments. One of the applications is porcelain veneers, being a very conservative alternative compared to the preparation of full crowns. Veneers are a thin layer of porcelain that is cemented to the vestibular surface of the anterior teeth in order to improve the shape and color. One of the great advantages is that the reduction of dental tissues is minimal. The cemented restoration is extremely strong, which is the result of the excellent bond between the enamel and the porcelain by means of the adhesives in conjunction with the resin cements. The adhesion of this type of restorations is of such magnitude that it is almost impossible to remove it when all the steps have been carried out properly. This restoration system can be used to improve the aesthetic appearance of teeth in case of abnormal color, modification of tooth shapes, correction of dental fractures and correct diastemas, among others. [5]

2 CASE DEVELOPMENT

Female patient aged 65 years, presents for consultation, reason for consultation: I want to get some crowns so that my teeth do not look ugly and broken. (Fig. 1 and 2).

It was explained to the patient the excessive wear of good dental tissue that will be done to place the crowns that she requests. She was given a treatment option that is more conservative, aesthetic and minimally invasive, which was the option of porcelain veneers.

Figure 1

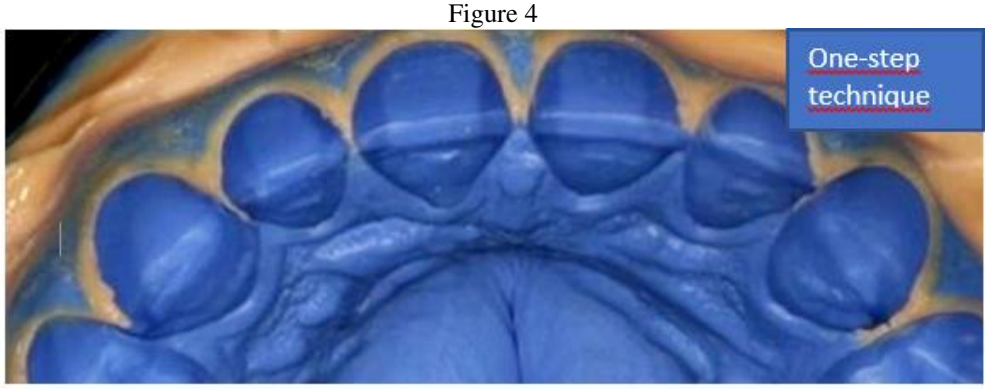
Figure 2

The preparations began in the dental organs, 11,12,21 and 22, the wear was in the vestibular and a little on the palate, the dental floss of 000 zeros was placed to be able to carry out the gingival retraction and thus take the impression. (Fig.- 3)

Figure 3

Before taking the impression, the retraction cords were removed. The final impression was taken with a tray prefabricated with heavy and light polyvinylsiloxane silicones. (fig.- 4).

Figure 4



Once the final impression was made, the provisional ones that are used for short periods were made, their function is to provide a chewing surface and protect the **dental and periodontal tissues such as dentin and dental** nerve . (Fig – 5).

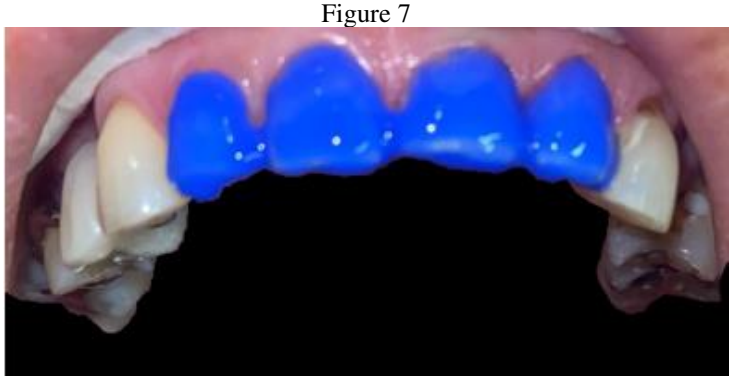
Figure 5

The veneers were tried before cementation, the sealing was checked and they were good for cementation (Fig. – 6)

Figure 6

Having the veneers ready, they continued to be cemented. The use of phosphoric acids for the treatment of dental surfaces is mainly based on the increase of the contact surface by creating microporosities, a purely physical phenomenon. In addition, acids are also able to increase wettability or free surface energy, allowing a more intimate contact between the resin and the enamel, which also promotes adhesion. It was recorded for 20 sec . The teeth were removed with plenty of water to dry and then place adhesive (Fig.- 7). The adhesive itself is the third part of the total etch adhesive system and is composed primarily of hydrophobic and light- curing monomers , which must penetrate the dentin for primer to form the hybrid layer. [7]

Figure 7



For cementation, celluloid strips were placed between the dental organs to prevent the cement from running and sticking with the neighboring tooth (Fig. – 8). Adhesion is the mechanism that joins two interfaces in close contact. The understanding of this mechanism was fundamental for the evolution of Dentistry as we know it today and key to the development of ceramic veneers. The purpose of the adhesive restoration is to achieve a tight, sealed adaptation between the restorative material and the tooth substrate . [7]

Figure 8

Cemented veneers, surplus removed (Fig.9)

Figure 9

BEFORE

AFTER

3 CONCLUSION

The great potential of bonded ceramic restorations can be understood because the relevant scientific and clinical parameters associate biology, function and mechanics. Ceramic veneers also provide the dentist with an effective aesthetic treatment modality. Even if aesthetics is not the primary goal, it should be taken into account. Modification of the shape, position and color of the anterior teeth causes important changes in the smile, which, in turn, can contribute to improving the personality and social life of patients. Porcelain veneers, initially used to treat the different types of tooth discoloration, have been progressively replaced in these cases by more conservative treatments such as chemical whitening and micro and megabrasion . [8]

Currently the main indications for the elaboration of veneers are 2: 1.- to modify the color and 2.- to alter the shape and texture of the dental elements, it is possible or not to work on the length and dental alignment, minimize or close gaps , restore fractured or deformed teeth and congenital anomalies. [9]

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