INDIRECT COMPOSITE VENEERS AS A SOCIAL THERAPEUTIC SOLUTION. A CASE REPORT

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ABSTRACT
The modern dentistry area addresses high demands for dental restorations, harmoniously integrating into the homeostasis of the dental system. Modern contemporary aesthetic restorations are commonly associated with the latest CAD-CAM biomaterials and technologies, with prep- and no-prep techniques. Current practice often faces us with an important decision-maker, the socio-economic criterion, which limits the therapeutic options. In this context, the chosen therapeutic alternatives need to restore both aesthetics and functionality to optimal parameters in the financial terms which are accessible to the specific social segment. The article presents the case of a young woman that presented to the dental clinic for aesthetic reasons. The therapeutic option consisted in the restoration of the physiognomic function using composite veneers made by indirect method.

Keywords: aesthetics, indirect composite facets, composite materials, devitalized teeth.

INTRODUCTION
Aesthetic restoration of the anterior teeth is one of the greatest challenges in restorative dentistry.[1]

Over the last decade, veneers have provided conservative treatment as an alternative to dental crowns, representing an increasingly popular treatment for restoring dental aesthetics. In this context, the use of adhesive techniques makes this treatment not too invasive and it the same time meets the aesthetic requirements of the patient [2-5].

Ceramic glassionomers are the porcelain materials that used are due to translucency and also due to the potential to be used in thin layers [1, 6-8]. Their variety from opaque to transparent allows imitation of the natural structure of the tooth providing satisfactory aesthetic results [9-11]. In addition, ceramic restorations have a lower failure rate and are considered more resistant than composite veneers [1,12-15]. Veneer composites can be made by direct method, in the cabinet or by the indirect method in the laboratory.[16]

In clinical practice, in addition to aesthetic aspects due to coronary odontal lesions, there are also periodontal problems (gingival recessions, gingivitis, periodontitis), which determine root exposure and increased risks of periodontal disease. [17]

Moreover, the incorrect or faulty finishing of the veneer may constitute risk
factors and therefore determine bacterial plaque retention and subsequent microbial contamination in the cervical margin with the appearance of gingival inflammation. [17-20]

Despite the disadvantages (polymerization contractions, reduced strength, thermal dimensional changes, incisal fragility), the composite veneer system offers an efficient, simple, economical treatment, an effective alternative for many situations and for patients of different ages [21-22].

Finite Elements Method (FEM) proved to be a valuable tool in assessing the periodontal effects at the level of the maxillary central incisor during dental treatment. [23] Thus ethical hazards can be avoided. [24-28]

Therefore, the purpose of this clinical case was to present an aesthetic approach to restoring the smile using composite veneer treatment.

CASE PRESENTATION

Patient M.S., a 22-year-old student, presenting at the level of 1.1 a change of color consecutive to the pulp infection (Fig.1) presented for the restoration of physiognomy and smile.

Given the nature of the lesion and the patient's level of exigency, we have decided for a composite veneer by indirect technique, the refractory model technique.

Taking into account a number of factors (the quantity of available enamel, the position and color of the teeth to be prepared, occlusion, etc.), we performed an overlap preparation, reducing 0.75mm, the incisal edge was transformed in incisal surface. From the vestibular surface, a layer of enamel was removed at a depth of 0.5 mm.

This type of incisal preparation provides the dental technician with more control over the aesthetic characteristics of the incisal edge of the composite veneer (Fig. 2).

At the cervical level, a subgingival conge finish line was obtained, and in the mid-distal direction the preparation extended to the point of contact without disrupting it. At the end of the preparation, we checked the occlusal rapports, followed by the retraction of the sulcus with retraction cord (Fig. 3) and the impression taking by the washing technique (Fig. 4).
For the laboratory technological stages, characteristic for the refractory model, SolidexTM (Shofu) kit was used (Fig. 5), refractory material, extra hard gypsum, thermopolymerization oven.

Fig. 5. Solidex Trolley

After checking and preparing the impressions, the technician poured an extra hard gypsum model and a Moldano gypsum antagonist model. A refractory pattern was obtained by using a silicone impression and refractory material. Following the isolation of the abutment with a special lacquer, a opaque layer (Opaque Solidex Flow) was applied with a fine brush so that it evenly covered the preparation (Fig. 6) and the next step was thermopolymerization according to the manufacturer's instructions.

Next, the first layer of dentin (Solidex A3B) was applied, making an oversized modeling. The thermopolymerization of the dentin layer was carried out for 5 minutes at 1100C in a dry medium.

The modeling and shape corrections were obtained when another layer of dentin was applied, after that it was thermopolimerized as in the explained protocol (Fig.7).

After that, the application of the glaze layer followed, with chromatic individualization, shape individualization and thermopolimerization.

The veneer thus obtained was removed from the refractory model, finished and polished with gums (Fig. 8).
It was followed by the check on the model (Fig. 9) and in the oral cavity, actually the clinical try-in, after which the final cementation of the composite veneer was carried out. We demineralized the internal face of the veneer with fluorine acid for 5 minutes, followed by washing and drying.

Next, we applied a single-component (Monobond) adhesive on the internal side of the veneer in order to allow chemical adhesion of the resin base system to the composite without polymerization.

After isolation and drying of the prosthetic field, we performed the etching of the dental surface using 37% Spofa Etching gel for 30 sec. And dry with the air spray. (Figure 10). On the demineralized dental surface we applied the dentin adhesive that I polymerized for 10 sec. (Fig. 11)

After brushing the adhesive we applied on the dental surface and inside the veneer a micro filling composite resin (Point 4 TM flowable-Kerr) (Fig. 12) and the veneer was placed on the tooth by a rotating motion, the first contact being at the cervical level to avoid the inclusion of air voids. I have polymerized each face for 40 seconds, and the portion from incisal edge to vestibular -20 sec. (Figure 13).
The composite excess was removed with a fine granulation diamond cutter, and in interproximal areas with flexible discs. As a last step, we checked the static and dynamic occlusal reports, continued the patient's health education, explaining the need to know and follow the instructions on the immediate and lasting use of the facets (fig.14).

Fig. 14. The final situation

CONCLUSIONS

Composite veneers are indicated for teeth that suffered chromatic and shape alterations. This treatment has advantages such as minimal thickness of tooth reduction, adhesion to enamel and dentin and an aesthetically satisfactory result. The success of this type of treatment depends on the correct choice of the case.

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