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The timing of transition from composite resins to ceramic laminate veneers and “contact lenses”

Philosophy of work is one of the most important instruments in the day to day of any dental professional. It comes from our background and professional experience over the years. One of the issues discussed at present is when choosing between composite ceramic and resin, as discussed earlier in this same space.[1] Another questionable point, which generates doubts among clinicians is when to move from a case of composite resin to a ceramic rehabilitation through laminates. We will use a clinical case to exemplify our vision of work, from the choice of the composite resin to the decision to convert it to ceramic restorations. I believe that this case represents a bit of our philosophy of work, in which we always seek to choose the best restorative alternative at the right time. The description is based on an interesting case of an aesthetic procedure in a young 27-year-old woman, in which we shift from a work in composite resin performed 11 years ago to the ceramic “lenses”, in 2016.

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HISTORIC

The patient sought, in 2005, at 16, our practice in search of an esthetic work for her anteroinferior teeth.

Usually, in such cases, the first indication is always Orthodontics, which allows teeth alignment and tissue and gingival architecture positioning. However, the patient had a high rate of carious lesions, especially in the proximal region of the posterior teeth and also in the mesial and distal faces of the anterior teeth, associated with areas of decalcification and white spots. Before improving aesthetics, we had to treat these carious lesions in more than twenty elements, contraindicating, at that time, Orthodontics, before the adequacy of the oral cavity.

After careful removal of caries and subsequent restoration with composite resins applied by the direct technique, we turned our attention to the anterior aesthetic area, which was the patient's initial priority. The patient chose not to undergo orthodontic treatment and requested only discreet modification in the shape of her teeth.

As a standard approach in our practice, age is also a key factor for the restorative process selection. Thus, because of her age, just out of adolescence, our option at the time - and still today - was the aesthetic recontouring by addition with direct composite resins. In this case, Charisma and Durafill systems (HERAUS Kulzer) were used. The treatment was based on strategic additions in several anterior elements, also acting on the palatine face of canines, providing a sharp improvement in the dynamics of the anterior occlusion. Anterior and canine guidance were adjusted in a judicious and balanced manner. At the time, we did not work on the two maxillary central incisors, that is, no material was used on them.

We have followed this patient in the last 11 years, with prophylaxis, brushing orientation, fluoride therapy and aesthetic maintenance. During this period, we achieved excellent clinical control, with the stabilization of the index of carious lesions.

The composite resins used in 2005 in the anterior region were still optimal, according to the patient's analysis. During all these years, we have neither replaced nor repaired any resin, just done the necessary maintenance (namely surface polishing). The polish and gloss remained stable, despite the time in function.

This is due to the use of a technique that we have performed since 1990, when we finished all aesthetic restorations with microparticle resin on the last layer, placing a thin layer and with no contacts on the occlusal dynamics. In this case, the used resins were from Durafill and Renamel Microfill lines.

In our practice, we have longitudinal follow-ups of many cases using this technique, which have proved extremely effective until the present day.

PLANNING AND IMPLEMENTATION

The level of carious lesions has greatly decreased over the years. The patient understood the importance of periodic oral health control. After 11 years in function, in September 2016, she decided she would like to change the aesthetics in a different way, totally changing her smile design and the aesthetic proportion of her teeth; she mentioned the desire to increase the volume in the buccal corridor in the anterior teeth, for a better proportion between length and width. After a wax-up study and a costumed simulation (mock-up), she approved our proposal and planning to perform twelve elements (#16 to #26) of the "laminated with little wear type (ceramic lenses)." The twelve elements involved in the treatment were conservatively prepared by

removing all resins made in 2005 and preparing, in a conservative and minimally invasive manner, the elements #11 and #22. At the description of the clinical case, it is possible to visualize the initial situation of the intact enamel and the dental preparation performed eleven years later. Due to the improper positioning of the canines to obtain guides, the palatine was also restored to improve the occlusal pattern. The palatal maxillary canine restorations were removed and the full veneer preparation type was carried out veneer in these two elements.

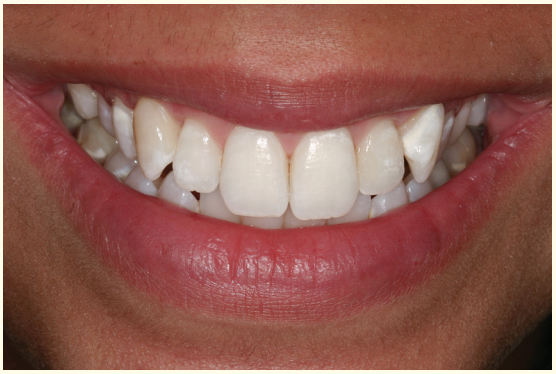

Figure 1: Smile before treatment in 2005.

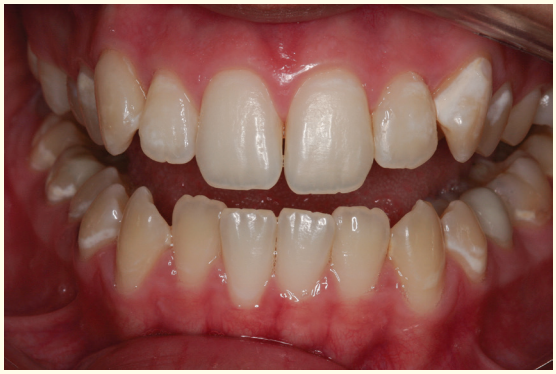

Figure 2: Intraoral front view before the restorative work in composite resin held in 2005.

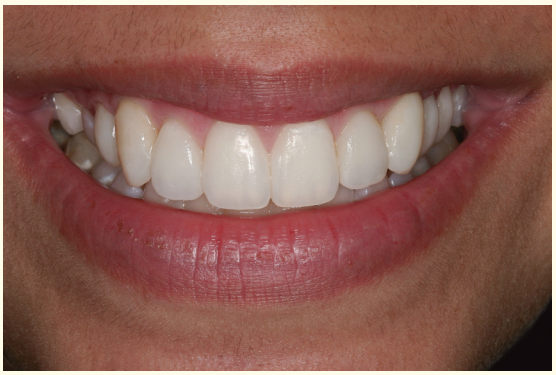

Figure 3: Smile after the work, in 2005, on the anterior teeth and left side. The right side was made in a second session the same year.

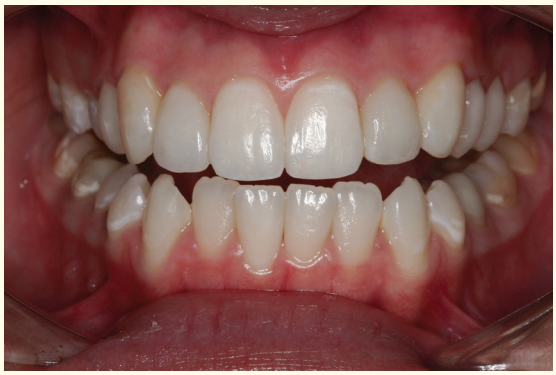

Figure 4: Intraoral photograph of treatment, conducted in 2005, before finalizing the right side.

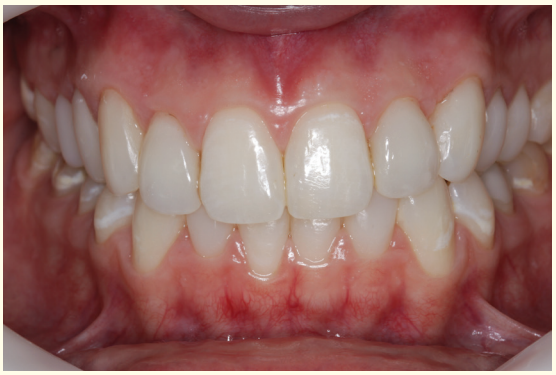

Figure 5: Intraoral photography of 5-year clinical follow-up. Note that, in this photo, the treatment of elements #14 and #15 is shown, which was also finished in 2005, after the photograph on Figure 4.

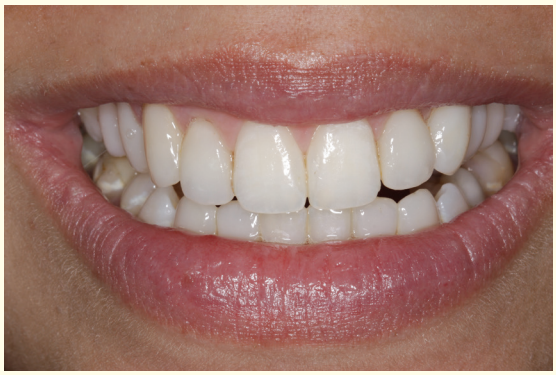

Figure 6: *Follow-up* of five years after restorative treatment with direct composite resin.

Figure 7: Face photography in the 5-year *follow-up*.

Figure 8: Face photography in 2016, showing the result of the aesthetic treatment after 11 years.

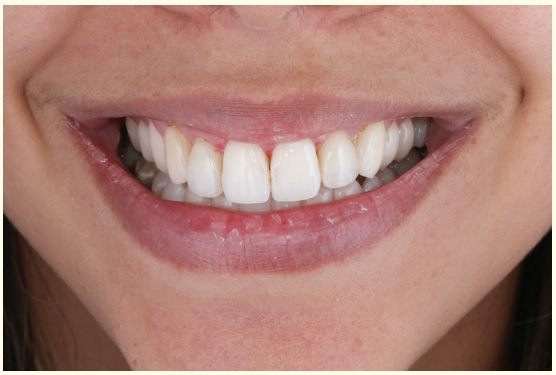

Figure 9: Frontal view of smiling in 2016: The superficial surface staining in the margins can be noticed, a common finding in direct composite resins, which can be fixed with eventual repairs, followed by polishing and finishing.

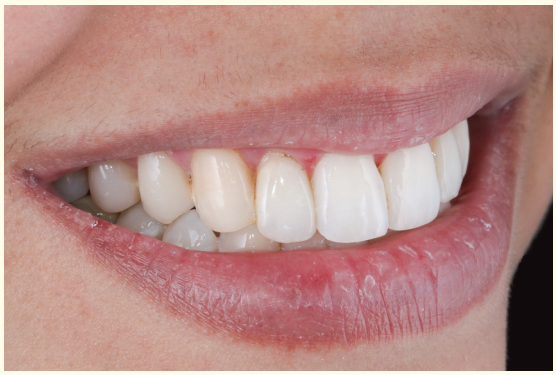

Figure 10: Side view in 2016.

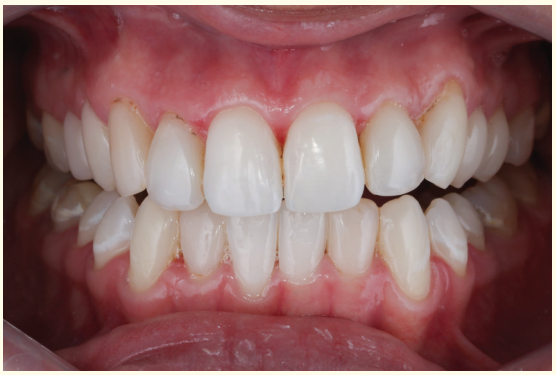

Figure 11: Intraoral view of composite resins before performing dental preparations for ceramic laminates.

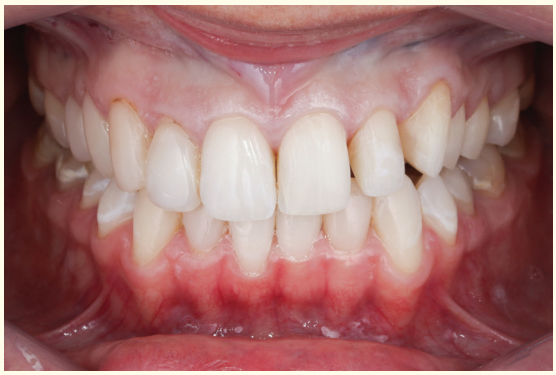

Figure 12: Photograph showing the #21 to #26 teeth preparations. Note the wear pattern compared to the unprepared side.

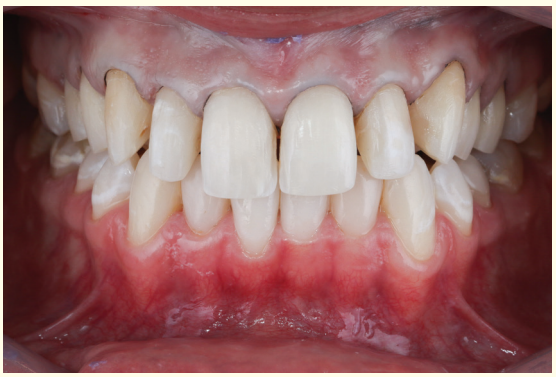

Figure 13: Preparation of teeth #16 to #26, with retaining wire already positioned for the molding procedures.

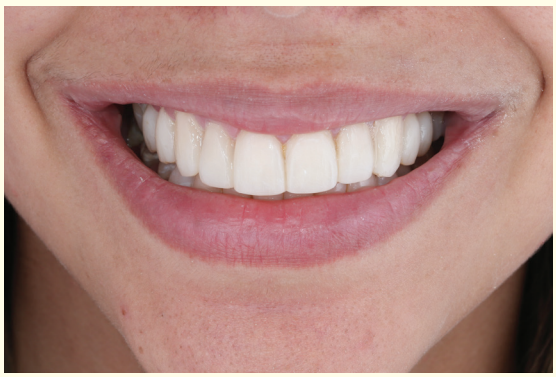

Figure 14: Provisional in place, in the same way of the *mock-up* approved by the patient.

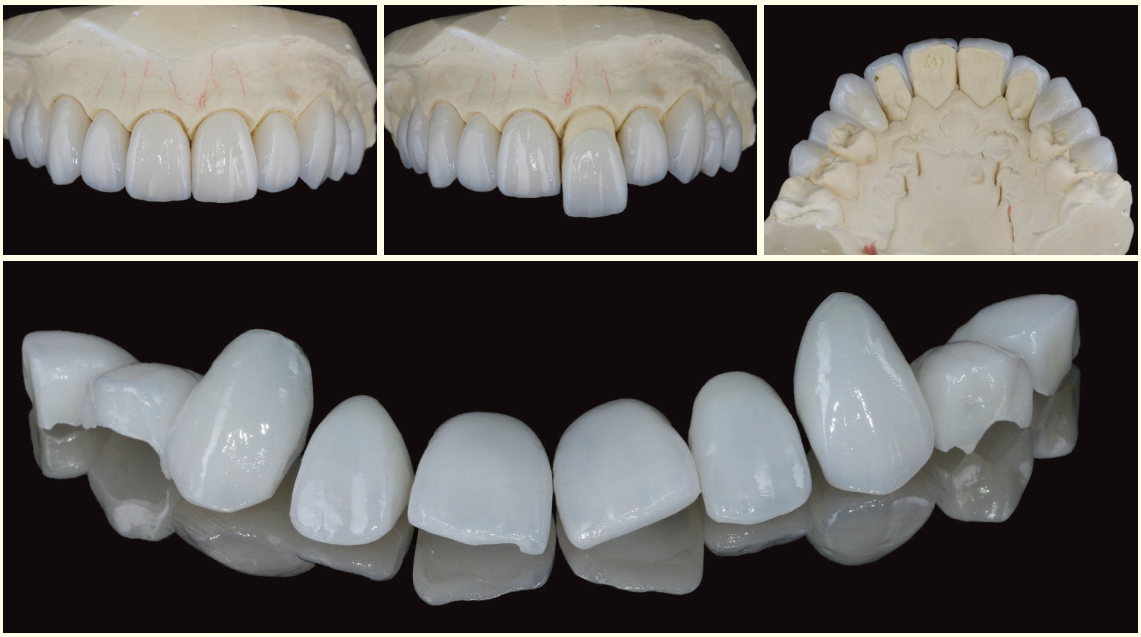

Figure 15 to 18: Images showing the ceramic laminates, which are checked and evaluated in models prior to testing and cementation.

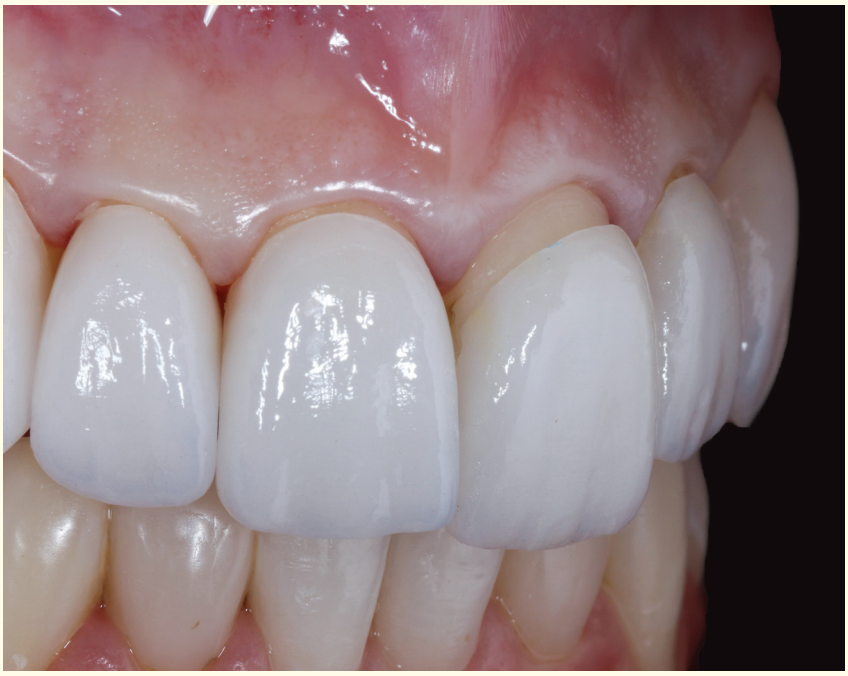

Figure 19: Dry proof of the pieces to check points of contact and marginal adaptation.

Figure 20: "Wet" proof with *try-in* proof paste to a correct selection of the resin cement.

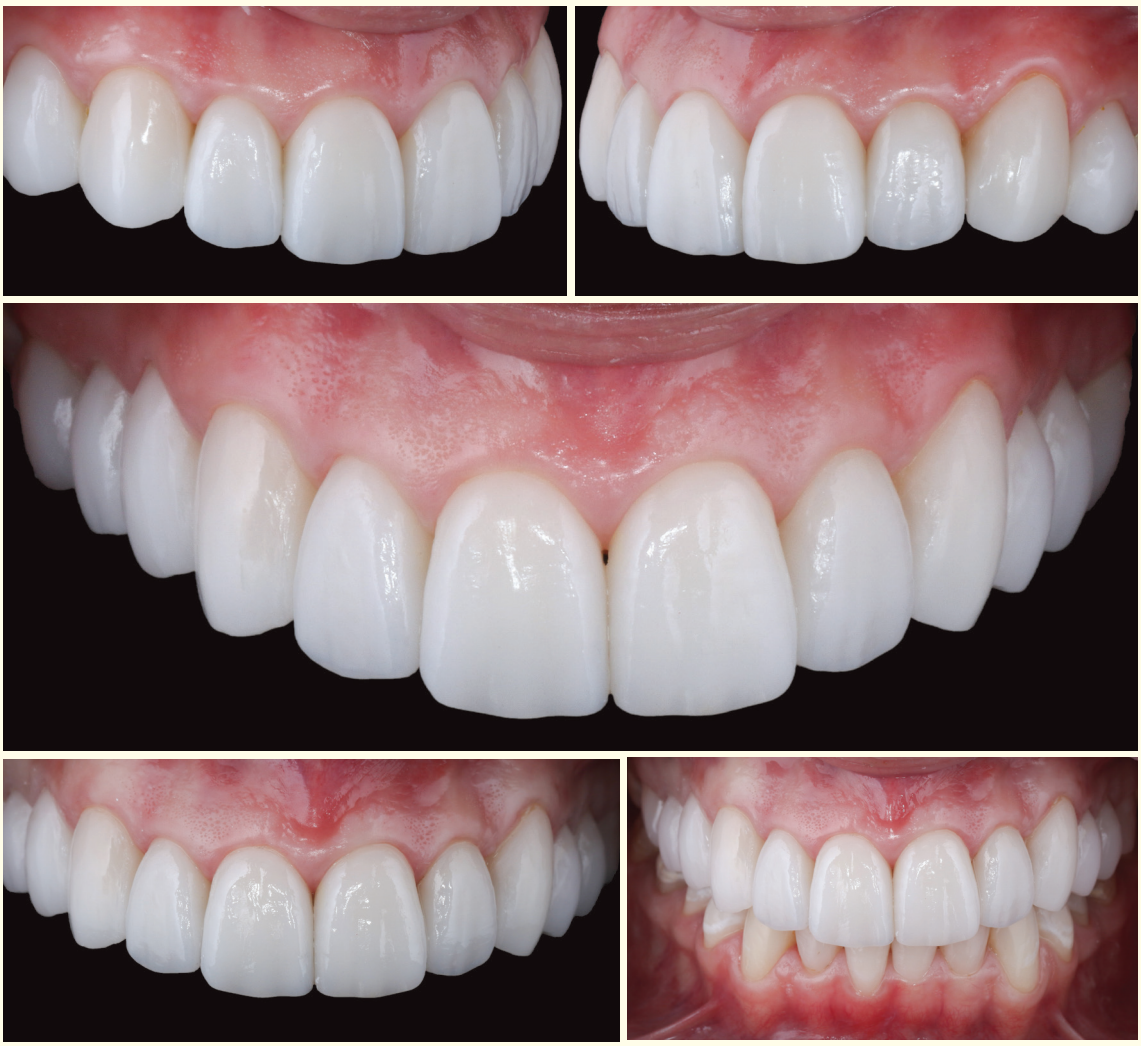

Figure 21 to 25: Intraoral photographs showing the final result after the cementation of ceramic restorations.

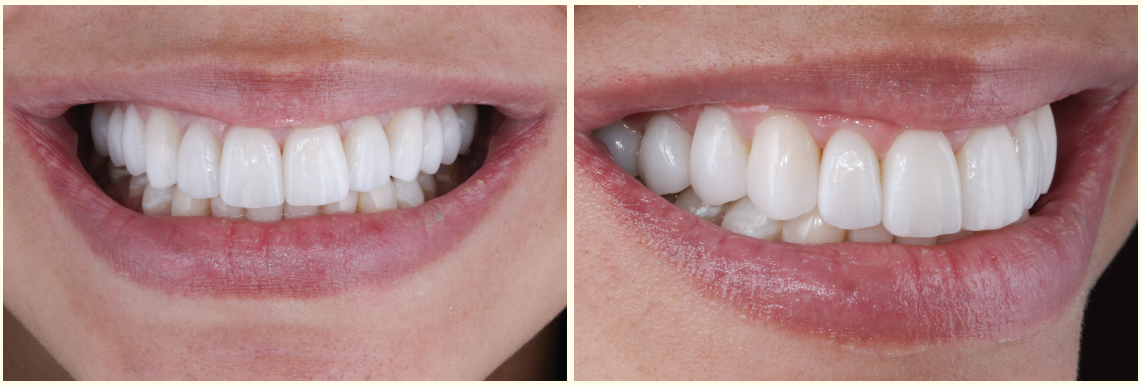

Figure 26 and 27: Final smile, after the cementation of the prosthetic pieces.

Figure 28: Smile frontal photo of the finished case.

CONCLUSION

In our opinion, this work shows the importance of the dentist being prepared, nowadays, to execute both techniques, direct and indirect, and to decide, with common sense and prudence, always for the best option for each patient in all clinical, functional and aesthetic aspects. Good planning is essential, regardless of the technique used.

We must always analyze all the relevant clinical factors, the aesthetic desire of each one and demystify the concept of definitive treatment, especially in the case of young patients. It is our obligation to always explain the advantages and disadvantages of each technique in a clear and objective manner, informing the patient of the importance of clinical follow-up and with due maintenance in the long term, regardless of the material used.

Reference:

1. Arbex Filho J. Direct composite resin x ceramic laminates: the choice. J Clin Dent Res. 2016 Jul-Sep;13(3)45-52.