José Arbex Filho[1]
Andrea Murta Lott MontAlverne[2,3,4], Flavia Pedrosa Vieira de Melo[2], Ana Paula de Paiva Gontijo[2]

"The resin from the viewpoint of disocclusion." Why do we still use resins in complex cases, surpassing the limits of indication or common sense in favour of the patient

We started our fourth column of JCDR (third of 2017) with an article that reports a clinical case that deserves reflection. We have published, in other articles, several cases showing our conception and clinical approach in different cases, such as the indication of composite resins in a young patient, mainly in orthodontic finishing, laminates of the ceramic contact lens type with sufficiently invasive preparations, the right moment for the transition from resins to ceramics and, in the last article, a case where the patient searched for resin and it was shown to him that ceramics would be the best option. Now, we will emphasize common sense and the extremely conservative aspect, in complex functional and esthetic work, as a primary factor in deciding which material to use in different situations that may benefit our patients.

CASE DESCRIPTION

The clinical case described in this issue is a 48-year-old patient, physician, who would like to improve his smile's anterior esthetics. After a judicious and careful patient analysis,

How to cite: Arbex Filho J, MontAlverne AML, Melo FPV, Gontijo APP. "The resin from the viewpoint of disocclusion." Why do we still use resins in complex cases, surpassing the limits of indication or common sense in favour of the patient. J Clin Dent Res. 2017 Jul-Sept;14(3):34-41.

DOI: https://doi.org/10.14436/2447-911x.14.3-034-041.cli

Submitted: May 12,2017 - **Revised and accepted:** June 31, 2017.

1) Graduated in Dentistry, Universidade Federal dos Vales do Jequitinhonha e Mucuri Valleys (Diamantina / MG, Brazil). Managing Member of the Brazilian Society of Esthetic Dentistry (SBOE) and President of the Biennial 2003/2004. Co-author of the book ' Shortcuts ' (with Ronaldo Hirata), 2016.
2) Graduated in Dentistry, PUC Minas (Belo Horizonte / MG, Brazil).
3) Specialist in Periodontics, Instituto de Previdência dos Servidores do Estado de Minas Gerais , Centro de Estudos Odontológicos (Belo Horizonte / MG, Brazil).
4) Specialist in Facial Harmonization, Faculdade FAIPE (Cuiabá / MT, Brazil).

it was possible to realize the complexity of the case. Let us list some factors and situations perceived in the examination and used for the diagnostic process:

1. Occlusion in total functional imbalance, without anterior guides and without palatal contact; disocclusion only in the posterior teeth, that caused a series of NCCL (non-carious cervical lesions) due to functional trauma over time.
2. Anterior teeth with several diastemas and some elements with small rotation, contributing to the disproportion of anterior gingival esthetics.
3. History of bruxism, according to report, and had never used any type of bide guard.
4. Wear facets on posterior teeth, absence of bilateral contact in some elements.
5. Although some professionals have suggested orthodontics, throughout life, he has never opted for such treatment.

Other key observations for the decision of this restorative planning:

1. The patient did not present any restorative work neither caries in both arches, only functional wear in the posterior teeth.
2. There were no signs of TMJ dysfunction, pain or any problem in masticatory function, swallowing and breathing. In fact, his problem was not occlusion, but the absence of ANTERIOR DISOCCLUSION, with several abfraction lesions in the cervical region in almost all posterior teeth.
3. According to his report, his teeth already presented this positioning from very young age.
4. His desire was for an esthetic work with some agility, without any type of Orthodontics and the most conservative possible.

PLANNING

A patient mold and scanning was obtained on 3D CEREC technology (Dentsply Sirona) for digital study; the appropriate smile photographs, intraoral photographs and a mouth study of the patient's occlusal dynamics .

After the analysis, the model was sent to the laboratory, to perform only ADDITIVE total wax-up. In our opinion, this is the great differential for conservative planning. The reason for this strategy was to choose the restorative option only after the mock-up, in the next appointment, checking not only the esthetics, but the functional part of disocclusion .

After analyzing all the details mentioned above, we realized that the ideal would be to perform esthetic restorations involving the vestibular and palatine of elements # 13 to # 23, with a mainly esthetic and functional purpose, positioning the occlusal contacts with the anteroinferior teeth in centric occlusion and, mainly, in the dynamic movements of disocclusion, which are fundamental for the balance of the whole articular system. In the posterior teeth, only occlusal adjustments and strategic additions in resin in the occlusals of some teeth, in order to stabilize and balance the bilateral functional contacts.

When we talk about additive restorations on the anterior teeth, these could be in composite resin or ceramics. When opting for ceramics, we would have to make preparations for the full veneer lens type from # 13 to # 23, for esthetic and functional reasons, to obtain anterior DESOCLUSION for the balance of the system.

In the posterior teeth, there was no doubt in opting for small portions of resin, sculpted in some of the molars and premolars occlusals. We could have opted for ceramics in the anterior ones, but besides the wear when preparing

the teeth, palatal contacts in ceramics would be with the intact enamel of the lower anterior teeth, which is not very recommended for patients with bruxism and parafunctional habits. For this reason, the option was the use of composite resin throughout the restorative process.

CLINICAL STAGE

The patient underwent esthetic gingival surgery even with a low smile. The reason was the improvement in the anatomy of the anterior teeth and the height / width ratio of the tooth, obtaining necessary and ideal space for the work with esthetic restorations in composite resin.

After the patient's gingival healing, only the lower arch was whitened. The upper arch of this patient was not whitened for two reasons. First: we followed the esthetic pattern of the color achieved with the whitening of the lower ones, stratifying the upper teeth in resin of the same color, without risk of relapse of the whitening in the upper arch. In the lower arch, we could do the necessary whitening maintenance because it did not have any type of restorations. Second: because the two centrals had pulpal dystrophic calcification, due to trauma during adolescence; with the resin, it is possible to make the necessary stratification to match the substrate.

After that, the restorations were performed as mentioned previously, both the recoating of the non-carious cervical lesions with composite resin and the strategic increase in the occlusals, in order to balance the bilateral functional contacts. Anterior disocclusion and functional touches in the posterior without any dental preparation.

After this step, we started working on the anterior teeth. In the palatal and incisal border, one applied a resin - Empress Direct Trans 20 (Ivoclar) - of greater mechanical strength, nanoparticulate, defining the anterior angle of disocclusion. On the vestibular face, the Estelite Omega B1 resin in the cervical region and BL2 in the posteriors in thin layers over the entire buccal surface, giving the necessary esthetic contour in the anatomical shapes of the involved teeth, closing the spaces, and small increments of the effect resin (Filtek Z350 BT, 3M) on the incisals. The Estelite Omega is a supra-nanoparticulate resin that has characteristics very similar to those of high-performance microparticles and, therefore, we do not use it in areas of mechanical contact, in these cases. Soon after the completion of each element, we used the silicone guide for checking in relation to the waxup.

Figure 1: Photography of smile before restorative esthetic work.

Figure 2 to 6: Intraoral photographs before restorative esthetic work.

Figure 7: Facial photography before restorative esthetic work.

Figure 8 to 10: Intraoral photography after gingival cosmetic surgery of teeth # 13 to # 23. Surgical procedure to improve the ratio between width and height of the anterior elements, before performing the restorative work.

Figure 11: Whitening strategy only in the lower arch, to make up for the color with additions in composite resin in the upper arch, without risk of relapse Dystrophic calcification in teeth # 11 and # 21 by trauma, compensated by the stratification of composite resin in these two elements.

Figure 12: Smile photograph after esthetic gingival surgery on teeth # 13 to # 23. The patient had no gingival smile. The surgery aimed at improving the height / width ratio of the teeth.

Figure 13: Intraoral photograph with black background after cosmetic gingival surgery.

Figure 14: Photograph just after the finalized guide element (tooth # 21), with the wall (silicone guide) only to check the incisal proportions according to the waxing.

Figure 15 and 16: Photographs of the guide element (tooth # 21) finalized.

Figure 17: Intraoral photograph with black background, after the finalization of # 21 and # 22, already closing the spaces with the correct ratio according to the planning.

Figure 18: Intraoral photograph after the completion of the left hemiarch, already with the canine guide set, and completion of the element # 11 replicating the anatomy of the tooth # 21.

Figure 19: Photograph with a black background after completion of the left hemiarch and element # 11.

Figure 20: Facial photography after finishing the restorative esthetic work.

Figure 21 and 22: Photographs of waxedup models, made in the laboratory.

Figure 23: Close smile photograph, after the esthetic restorative work.

Figure 24: Frontal intraoral photograph in maximum intercuspation after esthetic restorative work.

Figure 25 to 27: Intraoral photographs with black background, after finalizing.

Figure 28 to 30: Intraoral photographs after esthetic restorative work: one can see the harmony and the posterior bilateral contacts, only by additions in composite resin.

CONCLUSION

It is important to be prepared and attentive to each clinical situation and, therefore, when choosing the restorative technique according to each patient, we must evaluate their history, psychological profile, clinical conditions presented and, mainly, a complete case study and a well done planning. I always enjoy the conservative option at first, especially in patients like this, with all teeth totally intact. I also believe that every professional who works in the esthetic restorative area must be prepared to go through both techniques, both with ceramic restorations and with composite resin.

Suggested Bibliography:

1. Belser UC, Hannam AG. The influence of altered working side occlusal guidance on masticatory muscles and related jaw movement. J Prosthet Dent. 1985 Mar;53(3):406-13.
2. Manns A, Chan C, Miralles R. Influence of group functional and canine guidance on electromyographic activity of elevator muscles. J Prosthet Dent. 1987 Apr;57(4):494-501.
3. Gómez SPP, Jeremias F, et al. Influência dos movimentos laterais excursivos sobre abfrações dentárias cervico-vestibulares. Acta Odontol Latinoam. 2011;24(3):283-8.
4. Schweikert EO. Anterior guidance. Quintessence Int. 1987 Apr;18(4):253-60.
5. Hirata R, Kabach W, Arbex Filho J. Restaurações estéticas e transformações anteriores. In: Hirata R. Shortcuts em Odontologia Estética. São Paulo: Quintessence; 2016. Cap. 3.
6. Arbex Filho J. Direct composite resin x ceramic laminates: the choice. J Clin Dent Res. 2016 July-Sept;13(3):45-52.
7. Arbex Filho J. The timing of transition from composite resin to ceramic laminate veneers and ''contact lenses''. J Clin Dent Res. 2017 Jan-Mar;14(1):30-7.