CAD/CAM restorations and NON-invasive adhesive rehabilitation: a case report to restore a patient affected by severe bruxism.

Key words: bruxism, non invasive dentistry, full-mouth adhesive rehabilitation, CAD/CAM restorations.

ABSTRACT

Minimally to non-invasive Dentistry should be the driving force in treating patients affected by bruxism.

Instead of letting these dentitions further degrading, clinicians should offer earlier interventions using only additive techniques.

Nowadays, in fact, thanks to the adhesive techniques, tooth and pulp protection could be easily achieved even in this risky population of patients, with no sacrifice of the remaining tooth structure.

In this clinical report, a non-invasive treatment of a patient affected by severe bruxism is illustrated.

A full-mouth rehabilitation was completed in only six appointments, following the 3 STEP technique, and 19 monolithic CAD/CAM composite restorations were delivered.

The patient's teeth, which were supposed to be devitalized and restored by means of conventional crowns, were repaired without any tooth preparation or anaesthesia.

The rational behind the additive intervention was to protect the exposed dentin and to allow the patient to destroy rather the restorations than his teeth.

The patient informed on the pro and cons of the therapy, accepted also to pay for the future repairs.

The 1-year follow-up confirmed the esthetic, mechanical and biological successes obtained.

Long-term clinical results are still needed to valid this type of therapeutic approach.

INTRODUCTION

Consequently, instead of a full-mouth rehabilitation (often necessary), a “single tooth” dentistry is preferred, where only few teeth are restored and only when it is really indispensable.

However, postponing a more comprehensive therapeutic intervention will only favour a further degradation of the dentition, which will represent a even more overwhelming challenge. FIG 1

Fig 1 ab Two different patients affected by severe bruxism. In both the cases, the dentists did not know want to treat them and preferred to postpone the full-mouth rehabilitations. Only single tooth dentistry was occasionally performed, but only when it was really unavoidable.

Intercepting tooth wear at an earlier stage is also a controversial topic in the dental community.

While some clinicians consider dentin exposure a physiological process related to age, other dentists, recognize the problem, but they are not comfortable to propose a full-mouth rehabilitation (especially if based on crowns) to their patients, at the early stage of the disease, waiting for more tooth destruction to happen to justify the treatment.

Nowadays thanks to the adhesive techniques, dentin exposure could be immediately addressed, the tooth destruction slowed down, with minimal to any additional tooth loss while delivering the restorations.

The key factor that allows this extremely conservative approach is the increase of the vertical dimension of the occlusion (VDO), necessary in every case to obtain enough interocclusal space to avoid any tooth preparation. VDO

The new “add not remove” philosophy proposes weak restorations, which may need

more frequent maintenance, but which preserve intact the underlying original tooth structure.

In addition, these restorations are cheaper, since they do not require root canal therapy or crown lengthening, and their maintenance will also be not expensive (especially when dealing with composite resin).

The clinician's capacity to communicate the switch in paradigm (biological success versus mechanical success) is fundamental, before proposing these extremely conservative treatments, because patients have to accept that the restorations are weaker and that they will eventually fail over time, with no guarantee on the time of survival.

The restored teeth, however, will keep their original integrity and a repair or a replacement with a similar restoration will be always possible. FIG 2

FIG 2 Occlusal view of the posterior teeth of a patient affected by severe dental wear (erosion and bruxism). The first molar was restored with a direct composite restoration. The choice of direct composite restoration was related to the lack of interocclusal space and the desire not to remove health tooth structure for an indirect restoration. After 4 year the composite worn down and it was adjusted by a new direct restoration. The patient did not complain about this failure, since he considered it normal part of the maintenance of his restored dentition.

This is not always the case, for example, when a devitalized tooth, restored with a crown, fails because of root fracture.

In this scenario the financial and biological consequences are more important and often patients are not prepared to deal with them.

In this clinical report, the treatment of a patient affected by severe bruxism, is illustrated.

His previous dentist had proposed two choices, to wait until more damage had occurred to his dentition or undergo to a conventional full-mouth rehabilitation.

If he had selected the second option, his anterior teeth would have been devitalized to be restored with crowns.

The patient refused the aggressive therapy, but he did not want to wait and allow more degradation of his dentition.

Seeking for another advice, a third option was proposed, a non-invasive dental treatment based only on adhesive techniques, which would have protected the exposed dentin from further damage.

The patient accepted immediately this earlier non-aggressive restorative proposition.

At the 1 year follow-up, the patient and the clinician were very pleased with the results obtained.

Time and more clinical data are needed to decide if an earlier non invasive rehabilitation with possible multiple repairs is a better treatment plan than a postponed more invasive therapy, with less repairs, but more severe failures.

CASE PRESENTATION

A 50 year old Caucasian patient presented to the private practice of the author.

He has been sent by a colleague, who did not agree with the treatment plan of another clinician.

This latter had proposed to restore the patient's damaged dentition by means of full coverage crowns, on every tooth, after elective endodontic therapy of at least all the mandibular incisor teeth.

Two years of orthodontic therapy and crown lengthening of the anterior quadrants were also required to complete the rehabilitation.

The patient was not convinced with this extremely invasive and expensive treatment plan proposed and he was seeking for other simpler solutions.

During the first consultation, upon smiling, it was very difficult to see the patient's teeth. The lips very thigh, and the anterior teeth were too damaged to be visible.

The shortened incisal edges were giving an aged look to the patient.

Even thought he recognised that the look of his teeth had changed during the years, he was not obsessed with the idea of rejuvenating his dentition. FIG 3

FIG 3 ab. 50 year old patient affected by severe bruxism. The fractured incisal edges were giving a very aged look to the patient. Upon smiling, in fact, the tooth exposure did not correspond to the age of the patient.

The main reason to seek dental treatment was the fear for the rapid progression of his tooth wear.

He wanted to stop the tooth damage, without sacrificing additional healthy tooth structure.

During the intraoral exam, a generalised wear was evident, more severe at the level of the mandibular anterior teeth.

In the maxillary arch, in fact, the tooth damage was minimal in the posterior sextants and only more pronounced at the level of the two central incisors, which had lost 40% of the original length.

Due to their compensatory supraeruption, the fractured incisal edges were almost at the correct position, misleading the patient, who did not realise the amount of damage occurred.

An excessive vertical overlap (e.g. deep bite) was present, with the mandibular anterior teeth completely covered by the antagonistic teeth.
The supraeruption, affecting also the mandibular incisors was responsible not only of the aggravation of the deep bite, the accentuated curve of Spee, but also of the excessive gingival display (e.g. gummy smile). FIG 4

Fig 4 ab Intraoral view of the initial status. Tooth wear was noticeable mostly at the level of the incisal edges of the anterior teeth, both mandibular and maxillary, with severe supraeruption of the anterior segments. All the teeth were still vital, and dentin hypersensitivity was not present.

Even though large areas of dentin were exposed, there was not sensitivity upon air spraying, revealing the slow progression of the tooth wear.

All the teeth were vital, and caries free.

The parodontal status of the patient was remarkable, as often it is in patients affected by bruxism.

The midline was deviated toward the right, due to the patient's habit to chew on the right side.

The unilateral chewing had, in fact, promoted a difference in the length of the two emimandibles, with the left side in normal occlusion, and the right side in disto-occlusion. Planas

Observing the wear facets and their correspondence among antagonistic teeth, a diagnosis of parafunctional habits was made to justify the tooth wear, diagnosis which the patient immediately denied.

He was convinced that during the day his teeth were always apart and he admitted only to bite occasionally his nails. FIG 5

Fig 5 The diagnosis for the severe wear of the patient's dentition was related to parafunctional habits. The patient realised that he was a bruxist and that his habit of biting his nail/skin was also involved in the damage of the anterior teeth. It is important to take a picture of the patient's fingers to make them understand how important they are in the success of the therapy.

He was not wearing an occlusal guard, and he denied grinding his teeth during sleeping.

The patient's reaction to the diagnosis of bruxism did not surprise the clinician.

Often patients are unaware of their parafunctional habits and they need to go back to their normal life to realise what they do with their teeth.

Generally, during the second appointment, all of them confirm to keep their teeth too much in contact (e.g. grinding or clenching), as it happened with this patient.

The first visit was concluded with two alginate impressions and a face bow to analyse the case with the laboratory technician.

During the aesthetic evaluation of the case, based on the smile pictures collected, it was clear that facial veneers in the maxillary arch were not necessary, not only considering the patient's reasonable esthetic requests, but also because the facial aspect of the teeth was intact and these teeth would have been lengthened only minimally to avoid an aggravation of the existing deep bite.

The patient was ACE class III, and the maxillary anterior teeth could have been reconstructed by means only of palatal veneers. ACE

Furthermore, crown lengthening was not considered to correct the gummy smile, since there was not a display of the cervical aspect of the anterior teeth.

In addition, in the author's opinion, when dealing with adhesive restorations the necessity to crown lengthening related to aesthetic needs should be very well evaluated due to the risk of exposing root surfaces and opening the interproximal spaces.

Finally, the patient was also reluctant to any orthodontic therapies and even more to orthognatic surgery, which had been proposed to him to correct his skeletal class II.

A 3 STEP technique was then followed, and the diagnostic casts were first articulated on a semi-adjustable articulator in maximum intercuspidal position (MIP). 3 STEP

The two articulated models were evaluated by the clinician before the diagnostic waxup, to study the increase of VDO necessary to deliver additive restorations.

A **1 arch mandibular distribution** was considered (restoration only of the mandibular posterior teeth), since the maxillary posterior teeth were better preserved (e.g. no dentin exposure), and their occlusal plane was adequate. WAX

The interocclusal posterior space obtained with the increase of VDO would have not been shared among all the posterior teeth, but given only to the mandibular arch.

This would have allowed for thicker restorations. This choice would have also reduced the cost of the therapy.

Only the maxillary left first premolar would have been included in the treatment, because of the dentin exposure on its occlusal surface. FIG 6

Fig 6ab The maxillary posterior teeth did not present the same level of wear of the antagonistic teeth, and the dentin was exposed only at the level of the occlusal surface of the left first premolar. A 1 arch distribution (mandible) was considered, to reduce the cost of the treatment and deliver thicker restorations.

Due to the skeletal and dental position (class II), however, it was immediately clear that already with a minimum increase of VDO, the anterior teeth would have been set too far apart to re-establish correct anterior contact points, using only palatal veneers.

In addition, to achieve the other objectives (lengthening the mandibular incisal edges of at least 2-3 mm, improving the deep bite and flattening the curve of Spee), the required increase of VDO would have been even more a conspicuous. FIG 7

Fig 7 Since a non invasive approach was considered without any orthodontic therapy, to restore the mandibular arch without crown lengthening procedure, nor incisal edges preparation a conspicuous increase of VDO would have been necessary. However, starting from the MIP position, the increase of VDO required to restore correctly the mandibular arch, would have set the maxillary anterior teeth too far apart.

As explained in a previous article of the author, there are two extreme clinical choices that a clinician may make, when considering the VDO's increase in class II deep bite patients. WAXUP

1. **Favouring the anterior teeth** with a minimal increase of the VDO
This choice will lead to a rehabilitation with adequate final contact points in the anterior quadrants, but thinner and weak posterior restorations.
In addition, it will be difficult to correct the curve of Spee and/or the deep bite.

2. **Favouring the posterior teeth** with a maximum increase of VDO
This choice will allow to obtain adequate thickness of the posterior restorations without any tooth preparation. At the same token, it will be possible to flat the curve of Spee, and improve the deep bite. However, the treatment will lead to a creation of an anterior open bite, which will not be corrected only by means of palatal veneers.

In this patient the choices which would have favoured the posterior teeth was more appealing.

However, instead of restoring the patient in MIP and leaving him with an anterior open bite, an experimental solution was considered, which did not imply orthodontic therapy to achieve final contact points at the level of the anterior teeth.

During the first visit, in fact, a habitual protrusive position was noted, which explained why the anterior teeth were more compromised. FIG 8

Fig 8 ab Habitual position of the patient. He preferred to be with his mandible forward and keeping the anterior teeth in contact, explaining the more severe damage at the level of these teeth. Due to the deep bite and the retruded mandible position, the MIP for the patient was not comfortable and it was used only to shallow.

As it happens in some cases of deep bite, this patient considered very uncomfortable his MIP from a muscular point of view and preferred to brace his mandible more forward, leaning on the incisal edges and causing their degradation. FIG 9-10

Fig 9 abc 35 year old patient with a deep bite and a habitual protrusive position. The mandibular anterior teeth were the most compromised teeth

Fig 10 abc 37 year old patient with a deep bite and a habitual protrusive position. Note the damage of the incisal edges of the mandibular anterior teeth.

According with the clinical observations of Pedro Planas on the maturation on the occlusal plane with age, a protrusive edge to edge position of the anterior teeth should be a more physiological condition to protect the periodontal status and the temporomandibular joints. Planas

Anthropological studies have also frequently found skulls with edge to edge position of the anterior teeth.

It could be derived that in case of deep bite and soft diet (no wear of the dentition), a person cannot achieve the maturation of the dentition.

An attempt to overcome the anterior barrier of the deep bite could be the protrusive edge to edge position, observed frequently in this population of patients.

In the specific case of the patient described in this article, restoring him in a protrusive position would have given the possibility to re-establish anterior correct contact points with an important increase of VDO, without any ortodontic/orthognatic surgery.

This experimental choice was illustrated to the patient, who accepted the treatment plan.

To record his habitual protrusive position, the clinician decided to reconstruct the damaged anterior teeth with a mock-up.

In addition to evaluate the aesthetic of the lengthened teeth, the patient would have bitten on the reconstructed teeth, which would have act as an anterior jig.

To fabricate this functional mock-up, the laboratory technician was requested to waxup only the 6 maxillary and mandibular anterior teeth, recreating the lost incisal edges, without considering the occlusion with the antagonistic teeth.

The waxup of the two maxillary central incisors was also extended at the level of the palatal aspect to create an horizontal stop. FIG 11

Fig 11 ab To register the protrusive position intraorally, the laboratory technician waxed up the incisal edges of the anterior teeth, and extended the wax on the palatal aspect of the two central incisors.

Two silicon keys were fabricated to duplicate the anterior wax ups to transfer the wax up in the mouth.
The patient was schedule for 1 hour appointment.
The final goal for this visit was to reconstruct the anterior teeth and use them as an anterior jig, to record the habitual protrusive position of the patient.

The two keys were filled with provisional composite material (Telio, Ivoclar Vivadent) and placed in the mouth.

At their removal, the patient was able to see the aesthetic result of the future restorations. Discussion on the visibility of the gummy smile and the size of the teeth was also addressed. FIG 12

Fig. 12 Anterior double mock-ups in place. This session was planned for esthetic reasons for the patient. However, for the clinician this visit had more a functional meaning.

Finally, sited upright on the dental chair, with the mock-ups in place the patient was invited to bite down and swallow the saliva.

Surprisely, the patient found the position (contact only on the two maxillary incisors) very comfortable and reproducible.

After several times and some occlusal adjustments to have both the central incisors touching without any mandibular deviation, the clinician decided to record the obtained position.

Bite registration material was consequently injected on the posterior teeth and the

patient was asked to bite down on the anterior jig. FIG 13

Fig 13 abc With the mock-up in place the patient was instructed to bite, and as expected, he bit without any hesitation in a more forward position. The reconstructed teeth acted as an anterior jig. Bite registration material was used to fill the posterior spaces.

A final impression of the mandibular arch with the mock-up in place was also taken, so the laboratory technician would have not waxed again the anterior teeth.

In addition, on this new cast final restorations would have been constructed.Borgatta

The mandibular posterior teeth were caries free, and the clinician decided to increase the VDO (II STEP) using directly final restorations.

The new mandibular model was articulated with the diagnostic maxillary cast, and the laboratory technician was instructed to wax up the two mandibular premolars and the first molars, following the incisal edges of the mock-up anterior teeth and trying to flat the curve of Spee.

The waxup was then used to directly fabricate 6 CAD/CAM monolithic composite onlays (Lava ultimate. ESPE 3 M).

Since it was preferred to deliver immediately the final restorations without passing throughout the provisional posterior composite restorations, the choice of using composite restorations was necessary.

Composite resin would have been easier to adjust in case the occlusion was not correct.

The mandibular second molars were not considered in this moment of the therapy. FIG 14

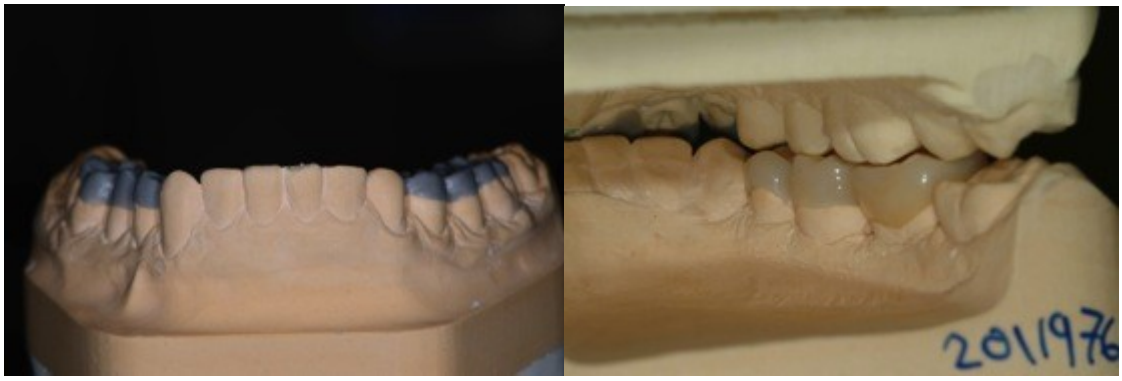

Fig 14 ab The new mandibular model was articulated with the existing maxillary cast, and the laboratory technician was instructed to waxup the posterior mandibular teeth (2 premolars and the first molars), try to flat the curve of Spee.

The patient was scheduled for a 3 hour appointment.

As the 6 mandibular onlays were sufficiently stable in the mouth, before bonding them, it was asked the patient to bite down gently.

The capacity of the patient to find a stable protrusive position was surprising. FIG 15

Fig 15 ab Try-in of the 6 CAD/CAM monolithic restorations. Since the restorations were stable, it was asked to the patient to gently bite down to verify the occlusion. The contact with the antagonist teeth was very surprising.

With no anaesthesia, the six restorations were delivered using the rubber dam, following the adhesive protocol developed by Pascal Magne. REFERENCE

The only difference was the use of a different hybrid composite (Enamel plus, Dentine, Micerium Italy) and the treatment of the intaglio surfaces of the restorations.

The laboratory technician had, in fact, provided the restorations already sandblasted with 50 micron alumina oxide particles, and after the try-in each of them was gently sandblasted again chair-side with 27 micron alumina oxide particles. FIG 16

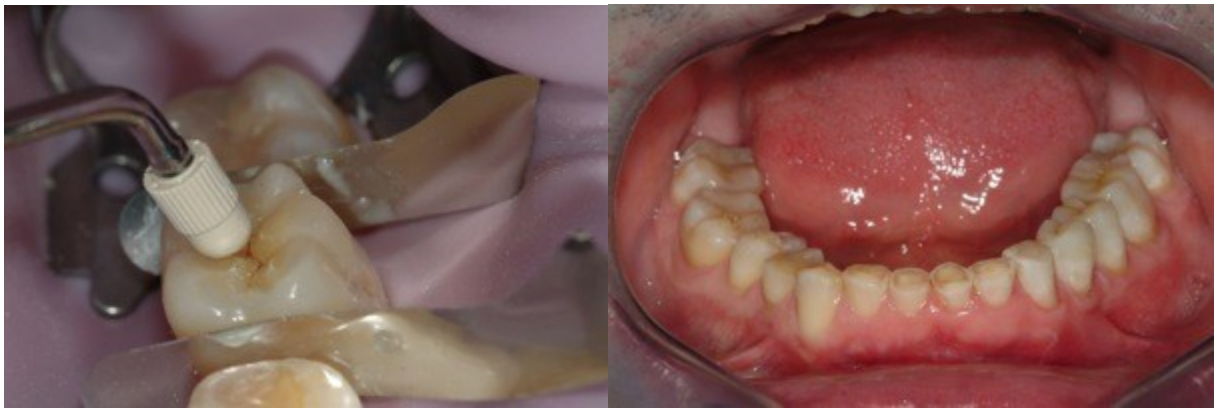

Fig 16 ab Individual bonding of the restorations, using the rubber dam, and metal matrices to keep open the interproximal contact points and remove the excess of the hybrid composite easily.

After bonding of these posterior restorations, the patient was placed in an upright position and static occlusal adjustments were performed.

The final goal was to obtain one contact for each tooth and no mandibular deviation.

Thanks to the lack of anaesthesia, the patient was fully cooperative.

Finally a small piece of chew gum was given to the patient and asked to test during function the new occlusion.

The patient reported that he felt already comfortable to chew on both side and that the protrusive position of his mandible was not representing a problem. FIG 17

Fig 17 II step of the 3 STEP technique. The patient was restored with final restorations at an increased VDO in a protrusive position. An anterior open bite was created.

After 1 week functioning with the open bite, the patient was scheduled for 1 hour visit.

The occlusion was controlled again with the patient seated upright on the dental chair.

Afterwards, a maxillary and a mandibular final impressions were taken after immediately sealing the exposed dentin at the level of the anterior teeth (IDS). REFERENCE

No additional tooth preparation was required.

Finally, a small anterior jig together with an new face bow were recorded.FIG 18


Fig 18 ab After 1 week the patient was scheduled for 1 hour appointment to check his occlusion and to progress with the 3 STEP technique. Without any anaesthesia, the exposed dentin at the level of the incisal edges was immediately sealed and final impressions for both the arches were taken. Note the metallic matrices to take the impression with the contact points in place.

The new models were articulated and the laboratory technician was instructed to fabricate first the maxillary restorations (2 canines, 2 central incisors and the left first premolar).

As no chamfer had been prepared on the vestibular aspect of the maxillary anterior teeth, the palatal veneers were fabricated with a facial step at the level of the junction with the remaining tooth structure.

Thanks to this excess of material, during the bonding of each palatal veneer, a direct composite restoration was also delivered to cover the vestibular aspect of the tooth and mask the difference in colour.

This is a non invasive procedure to avoid a chamfer and to achieve an invisible junction, while using monolithic restorations as palatal veneers.
During the bonding of the maxillary restorations, a mock-up of the 6 mandibular anterior teeth was made, to evaluate the occlusion, and the final shape of these teeth.

Since neither orthodontic therapy nor crown lengthening was considered, the clinician wanted to test in the mouth the aesthetic of the very short mandibular restored teeth.

The patient accepted the shape, since during speaking, the cervical aspect of these teeth was not visible. FIG 19

FIG 19 ab Try-in of the monolithic palatal veneers. The difference in colour was been masked thanks to the vestibular step present, filled with a direct composite during the delivering of the restorations. Note that a mandibular mock-up was also done to verify the incisal edges position of the antagonistic teeth, and the aesthetic of the reduced size teeth.

The two lateral incisors teeth were restored by direct composite restorations, due to their limited size and misaligned position. FIG 20

Fig 20 ab Immediately after bonding the 5 CAD/CAM monolitic restorations in the maxillary arch. The maxillary lateral incisors were also restored during this visit, using direct composite restorations.

At the completion of the visit, an alginate impression of the maxillary arch and an anterior bite registration were taken so the laboratory technician had the possibility to fabricate the mandibular anterior veneers.

These veneers were fabricated using the same CAD/CAM technology, and they were also monolithic (Lava Ultimate, Espe 3M).

Even though the colour would have been less appealing, a cut back was not considered as an option, since it would have weakened the strength of the material at the incisal edges.

In a patient where the parafunction habits were destroying the enamel, the clinician did not want to take any chances to deliver more esthetic, but weaker restorations. FIG 21-23

Fig 21 ab Each monolithic veneer was bonded separately, using metal matrices to keep the adjacent teeth apart. The isolation of the operatory field was very demanding, but necessary for the longevity of the restorations.

Fig 22 abC Initial status and follow-up after 2 weeks from the delivering of the mandibular veneers. Note the more facial inclination of the facial veneers and their short aspect to try to achieve the anterior contact points without worsening the deep bite.

Fig 23 abc Initial smile and final result. The lips of the patients were covering the cervical aspect of the teeth, confirming the good decision about the crown lengthening. Note that the length of the two central incisors was kept to a minimum to avoid the aggravation of the deep bite. The patient was very satisfied with the aesthetic result.

After the delivering of the 6 mandibular veneers, a mandibular final impression for the fabrication of the 2 molars onlays was also taken.
The two monolithic CAD/CAM composite restorations were delivered the following week.

Finally, an alginate of the mandibular arch was taken to fabricate a Michigan occlusal guard. FIG 24

Fig 24 abc Since the teeth were not prepared, it was possible to try the onlays for the second molars on the initial cast. It was very shocking to see how the curve of Spee and the incisal edge position of the mandibular arch had been changed, using only additive procedures.

The patient entered in a 1 year follow-up recall schedule.

The Michigan occlusal guard was delivered to the patient to protect him during the night. However, the patient continued his daily parafunctional habit of nail biting.

The clinician reminded the patient that every repair would have been weaker of the original restoration and it would have been at his charge.
The patient agreed on these conditions. Fig 25

Fig 25 ab A Michigan occlusal guard was delivered to the patient to protect him during the night. Pictures of the parafunctional habits could help in making the patient responsible for the survival of the restorations.

At the one year follow-up, the restorations did not show signs of accelerated degradation. The exam of the Michigan bite (worn every night), reviled no signs of grindings. The patient was very pleased with the restored dentition. FIG 26

Fig 26 ab 1 year follow-up. The patient was very happy with the result obtained. These pictures were taken without any previous cleaning and polishing of the restorations.

DISCUSSION

The choice of the dental material to restore dentitions affected by bruxism is always a riddle.

Questions on the better characteristics of the materials are still open: kinder to the antagonistic teeth, easier to repair, but more subject to wear, as composite resin materials are, or more aggressive to the antagonistic, more difficult to repair, but more resistant to wear, as the lithium disilicate ceramics could be.

The literature does not provide the answer with long term clinical studies on full-mouth rehabilitations in case of parafunctional habits.

The patient described in this article was restored using composite posterior onlays first, since the author was not sure if the patient would have been comfortable with the protrusive position, and the composite restorations would have been easier to adjust.

In addition, due to the 1 arch distribution, delivering ceramic posterior restorations may have been too aggressive for the unrestored antagonistic teeth, if the parafunctional habits had continued during the daytime.

Once delivered the composite restorations in the posterior sextants, the choice of using the same material for the anterior quadrants was explained by the necessity to use materials with similar wear.

In the author's opinion, delivering posterior composite restorations and anterior ceramic ones is a risky choice, since the posterior teeth will be subject to an accelerated wear and with time the contact points will be too strong on the anterior teeth restored in ceramic.

Time and more clinical cases are needed to provide more data to orient clinicians towards the more appropriate therapeutic choice.

CONCLUSION

Clinicians are generally not very keen to start treating patients affected by parafunctional habits (e.g bruxism), since they are afraid of the mechanical failure of the restorations delivered.

A common attitude is to wait that more damage occur, to be then obliged to

intervene.

However, this late intervention is responsible for further degradation of the original dentition with the necessity for rehabilitations more complicated and expensive.

In addition when severe loss of tooth structure occurs, mechanical retention is often implemented, making necessary the removal of even more healthy tooth structure.

Elective endodontic therapy becomes often a sacrifice to pay for a full-mouth conventional rehabilitation.

However, nowadays these rehabilitations are very difficult to be accepted by patients not only for the biological loss, but also for financial investment.
If dentists are not prepared to repair very compromised dentitions, and patients are reluctant to restore their teeth when additional tooth structure should be removed, questions on the time of intervention should rise.

Non-invasive dentistry is becoming more popular among informed patients, who are willing to start earlier rehabilitations.

In this article, the early intervention on a patient affected by bruxism is illustrated.

A non invasive approach was the aim of the therapy.

19 cad/cam monolithic composite restorations were delivered to restore his affected dentition and protecting the exposed dentin with a maximum effort to preserve the remaining tooth structure.

These non invasive adhesive restorations were considered as a 24 hour bonded occlusal guard, delivered to be damaged instead of the underlying tooth structure. This shift in paradigm should be proposed to patients who has already suffered of conspicuous tooth destruction, and want to stop or slow down the process, without any additional removal of the remaining dental structure.

This type of patients has to accept that if the parafunctional habits persist (as it is often the case), the restorations will need repair (or replacement), with not information on when that will happen.

If patients understand their crucial involvement in the survival of the restorations (e.g. wear the occlusal guard) and if they agree to pay for the maintenance of their restore dentition, non invasive additive dentistry could become a valid therapeutic option to offer to patients affected by parafunctional habits.

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