Rehabilitation in worn out dentition

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Tooth erosion, abrasion and attrition have become very common conditions among patients. Dentists before the progress in adhesive dentistry treated those patients with traditional protocols as crowns, leading to the removal of a great amount of dental tissues. On the other hand, minimal adhesive dentistry requires the removal of the minimal amount of the enamel or the enamel and dentin leading to more conservative approaches for therapy. This sort case presentation illustrates the rehabilitation of a worn dentition with the use of the three-step technique introduced by Francesca Vailati. The main aims of this concept are i) esthetics ii) the creation of a new posterior occlusion iii) a new anterior guidance. The collaboration of the dentist with the dental technician is crucial in order to accomplish the therapy protocol that is imposed by such complicated cases.

Fig. 1

Fig. 1 – Wax-up of the vestibular aspect of the maxillary teeth to validate the incised edges and the occlusal plane.
Fig. 2  Img. 2 – Mock-up.
Fig. 3 – Wax-up of the posterior teeth to validate the occlusal plane and the VDO.
Fig. 4 – Transparent silicone keys for the fabrication of provisional posterior restorations.
Fig. 5 – Transparent silicone keys for the fabrication of provisional posterior restorations.
Fig. 6  Img. 6 – Fabricated resin composite onlays.
Fig. 7 – Luted resin onlays. Teeth #3.3, 4.3 were restored with direct resin composite restorations.
Fig. 8  
Img. 8 – Overbite created after the increase in the VDO.

Fig. 9  
Img. 9 – A quite different approach in anterior teeth preparation. There was a decision to be as conservative as possible.

Fig. 10  
Img. 10 – Lab work base on the wax-up.
Fig. 11 – IPS e.max.
Fig. 12 – Isolation and microabrasion for the luting of the ceramic veneers (IPS e.max).
Fig. 14 – Final result.

Fig. 15

Img. 14

Img. 15
Conclusions

The preservation of the dental tissues in patients that have already lost tooth structure by erosion or attrition has to be considered by the dentist in order to provide a minimal invasive approach. What is not clear by many patients is the great amount of hard dental tissues that are been removed by the dentist (following a aggressive approach, like crowns) in order to achieve aesthetics and mechanical success in the longterm. The above concept and the use of the three-step technique could not be analyzed extensively, but it could activate clinicians to educate themselves to be more conservative even when they are dealing with a severe worn dentition.