CEREC Tessera™

Case report

Mandibular anterior restoration using CEREC Tessera™

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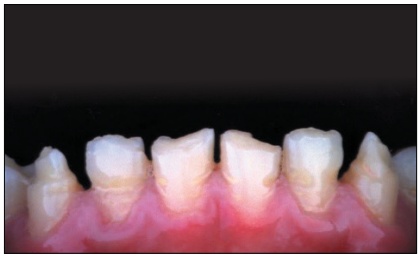
A 19-year-old patient presented at the dental practice of Dr. Alina Lazar (Pfinztal, Germany) in March 2021 with a request for an esthetic improvement in the anterior region. The clinical diagnosis revealed amelogenesis imperfecta (developmental disorder of the enamel).

The treatment objective was to rehabilitate the anterior maxilla and mandible. Bleaching therapy was to be performed first, followed by restoring the mandibular anterior teeth (teeth 43 to 33) with all-ceramic crowns. A direct composite restoration using the injection technique was planned for the maxillary anterior region. The prosthetic reconstructions were to be fabricated by the dental laboratory using CAD/CAM technology and finalized manually. The material of choice for the crown frameworks was CEREC Tessera™ (MT A1); Celtra® Ceram was to be employed for the minimum-thickness veneer.

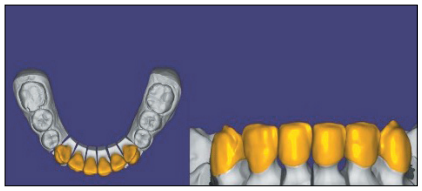
1. Initial situation:
The patient's teeth were severely damaged by pronounced amelogenesis imperfecta.

2. Dental photographic status for an esthetic and functional analysis of the patient's intraoral situation.



3. Close-up view of the defective dental hard tissue in the mandible after bleaching. In some areas, the enamel layer was either extremely thin or completely missing.

4. Minimally invasive preparation of teeth 43 to 33 such as to preserve the residual enamel. The teeth were prepared to receive all-ceramic crowns.



5. CAD design of the mandibular crowns. The crowns were built up to full contour, and a vestibular cut-back was performed for minimum-thickness veneering.

6. Single crowns milled from CEREC Tessera™. The blanks selected were MT blanks (medium translucency).

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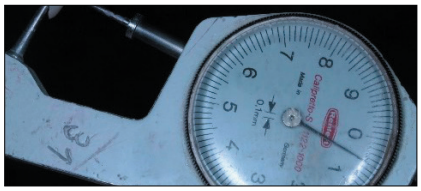
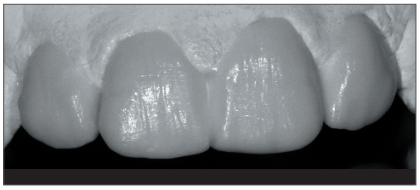
7. In the vestibular region, the CAD/CAM-fabricated crowns were built up to minimum thickness using dentin material of shade A1 (Celtra® Ceram), then completed with translucent material and various opals.



8. The completed crowns exhibited adequate stability despite their minimal thickness (0.5 mm in the vestibular region).



9. A wax-up was modeled in preparation for the direct composite restoration (injection technique) in the maxilla.

10. The inserted all-ceramic CEREC Tessera™ crowns exhibited very natural light transmission and appearance.

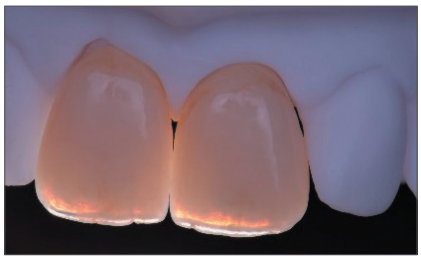
11. For documentation purposes, the result was again recorded in the form of a dental photographic status.

12. Lip view of the inserted mandibular crowns.

13. The maxillary anterior teeth were reconstructed directly in the dental office (Dr. Alina Lazar), based on the wax-up and using the injection technique.

14. The result:
The anterior teeth were restored with mandibular all-ceramic crowns and a maxillary composite build-up. The overall esthetic appearance was highly harmonious.

15. CEREC Tessera™ and its impressive optical performance. The natural light spectrum of the material produces excellent translucency, fluorescence, and opalescence.



16. A different case:
Excellent optical properties ensure a natural interplay of colors. These two crowns are monolithic CEREC Tessera™ crowns that were finished using the stain-and-glaze technique.

17. A different case:
These two monolithic anterior crowns made of CEREC Tessera™ also appeared naturally beautiful in their luminous environment.

18. A different case:
To accommodate particularly challenging situations, the milled monolithic crowns can be cut back and characterized with a minimum-thickness veneer.