Global Clinical Case Contest 2020-2021

2. Place

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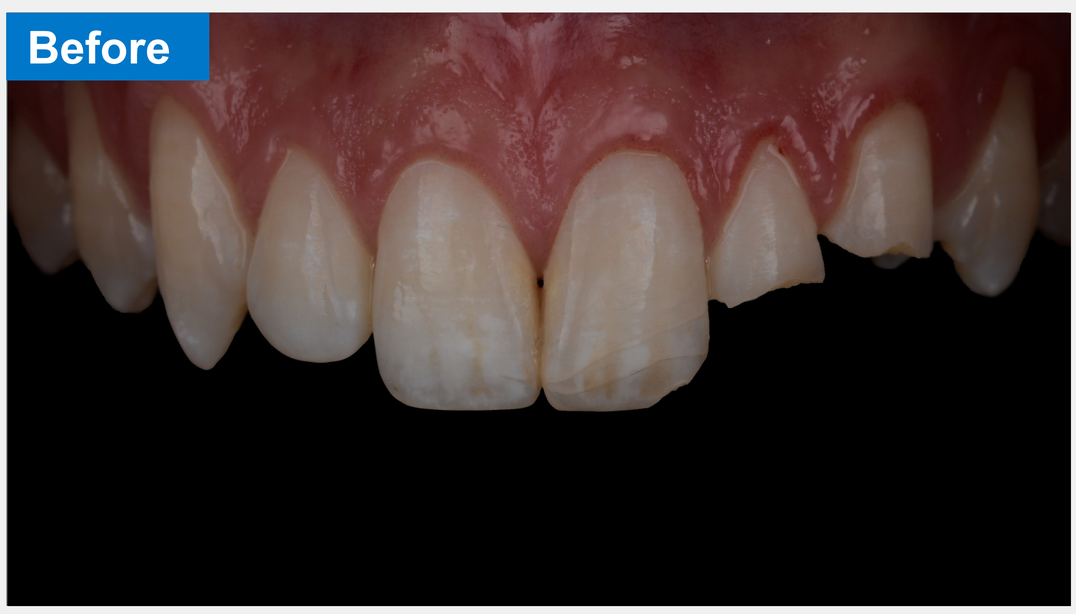
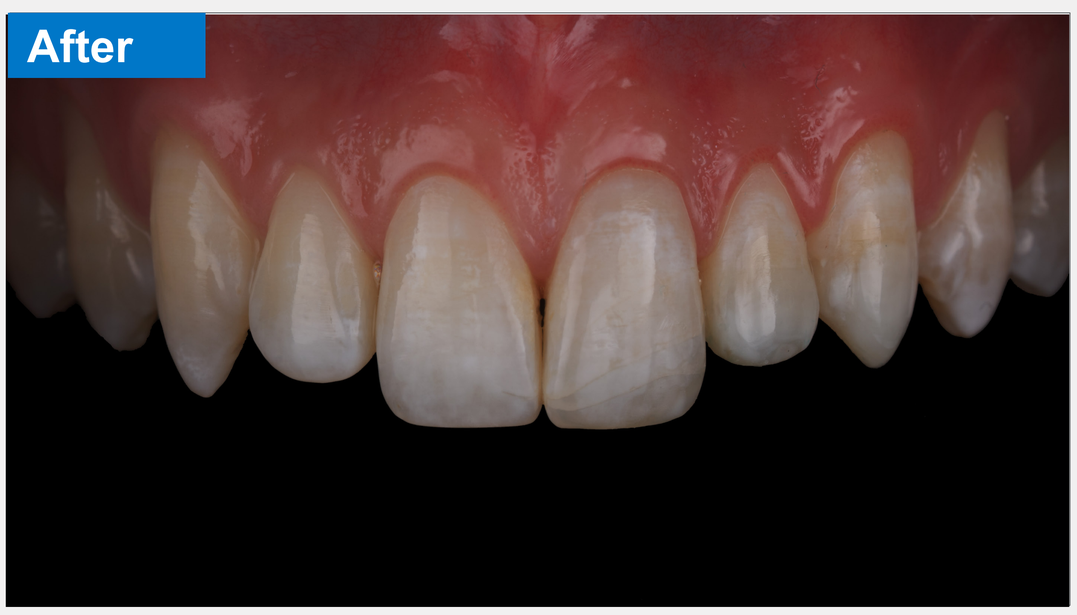
Introduction to the case

A young man, 20 years old, came to our department to solve his aesthetic and functional problem in frontal sector caused by a traumatic event. After performing a clinical examination, we found that the fractured teeth presented no mobility, no percussion sensitivity and no dislocation. The vitality test was positive. In order to satisfy the patient's request for an aesthetic and non-invasive treatment, we decided to rebuild the elements by direct restorations using **Ceram-x® Spectra ST™**.



Pre-operative: frontal intraoral view, showing the fractured elements 2.1,2.2,2.3.

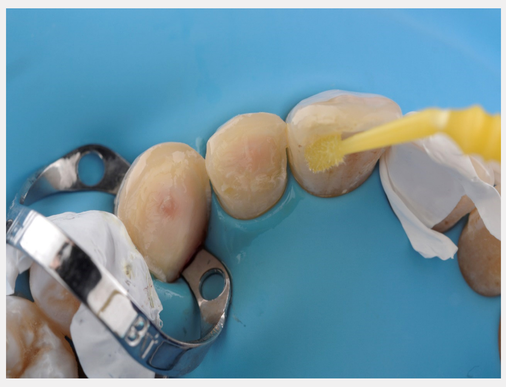


Post-operative : frontal intraoral view, showing composite restorations one week after the treatment. The smile appears natural and harmonious.

Treatment steps

Isolation and Etching

The operative field was isolated using a rubber dam and B4 clamp was used to show the cervical palatal margin of the element 2.3. **DeTrey® conditioner 36** was applied on the enamel margins for 30s, then the acid gel was rinsed with water spray for at least 15s, and dried by air flow.



Bonding

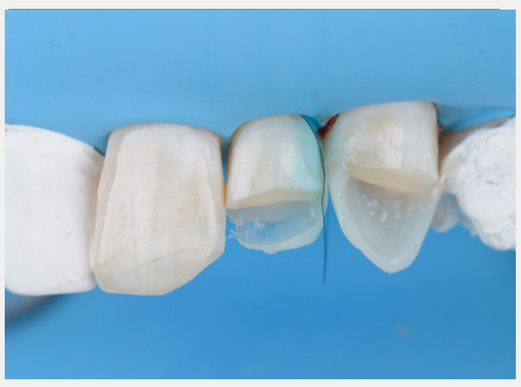
Prime&Bond active™ was applied on teeth surfaces for 20s, blowed gently with compressed air to make solvent evaporate, then light- cured for 20s.

Cervical margin relocation

Layers of **Ceram.x Spectra ST™ flow** A2 and **Ceram.x Spectra ST™** A2 were applied to relocate the cervical margin supragingivally.

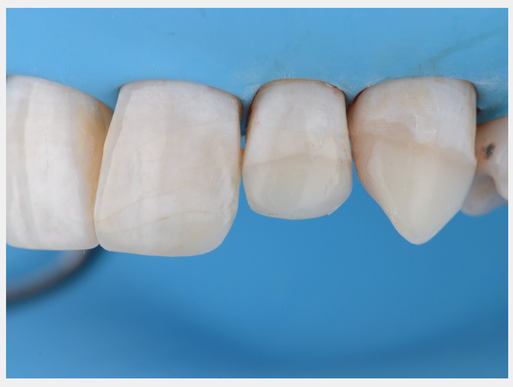
Build-up of the palatal enamel shells

Using a silicone index, made according to a previous direct diagnostic mock up, the palatal shells were modeled with **Ceram.x Spectra ST™ Effects** E1.



Interproximal surfaces build up

An acetate matrix was used to define the correct shape for approximal surfaces and to create the anatomically optimum contact points.

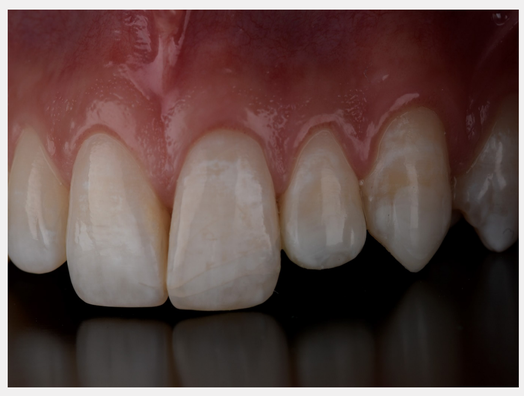


Vestibular surfaces build up

The vestibular surfaces were built up with a layer of **Ceram.x Spectra ST™ Effects** D1 , then a layer of A2 and finally a layer of E1.

Finishing and Polishing

The restorations were finished with a fine application of white supercolor in order to better integrate the composite restorations with the patient's other teeth. Finishing and polishing were performed with **Enhance® Finishing** and **PoGo® polishing system.**



Final result

Intraoral view of final aesthetic result. It is visible the natural colour and shape of the restored teeth.

Material and Method

In the first restoration step the operator field was isolated by a rubber dam. First we relocated supragingivally the cervical palatal margin of the emelent 2.3, then we built-up the palatal shells using a silicon index and later the interproximal surfaces. Lastly we built up the vestibular surfaces. We used **DeTreY Conditioner 36** for 30s, **Prime & Bond active™** and **Ceram.x® Spectra ST™** D1, A2 and E1 stratificated. The excess of composite was removed using diamond and multifluted burs. At the end finishing and polishing were performed using **Enhance® Finishing** and **PoGo® Polishing System**.

Discussion and Conclusion

Crown fractures are relatively usual in permanent dentition and require quick functional and aesthetic repair. Today the use of composite materials allows us to obtain optimal results, performing an effective camouflage with the natural teeth without biological cost. A satisfying result, for us and also for the patient, was possible thanks to the excellent properties of **Ceram.x®** composite.

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