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Laminate veneer restoration using Empress 2[®] system

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Introduction

As the role of porcelain veneers extend, dentists themselves find increasingly balancing esthetic advantages against material limitations. In a majority of treatment situations that use veneers, backed feldspathic porcelain has been used with great success and should be considered the material of choice. However, it has been reported that feldspathic porcelain veneers are brittle and prone to time-dependent stress failure, and they have a low flexural strength (60 to 70MPa). The sintering of the porcelain particles creates microporosities and irregularities between ceramic particles, which gives porcelain its low tensile strength and susceptibility to cracks. In addition, the cohesive strength of feldspathic porcelain permits a maximum acceptable thickness of only 2.0mm. Therefore, its use in fracture or large diastema closure case is questionable. So the use of pressed ceramic systems for "difficult" veneer cases, such as required bulk or function under load is recommended.

Recently, IPS Empress 2[®] glass-ceramic has been used as an all ceramic material for 3 unit ceramic bridge, crown, inlay, onlay and veneer. The final restoration, mode of a lithium disilicate framework ceramic and a fluoroapatite layering ceramic, offers clinical benefits in terms of high flexural strength (350~450MPa), low wear of opposing tooth structure, esthetics similar to natural tooth and marginal adaptation. The purpose of this case is to report laminate veneer restoration using IPS Empress 2[®] system.

Clinical case

· Case 1

Age / Sex : 39 / M

C.C : # 11 & # 21 diastema

21 Discoloration

PMH : N-S

Hx : 1990. 1. 6 # 21 - Endo tx

Tx : #11, #21 IPS Empress 2[®] Laminate veneer Restoration Setting (Variolink II)

· Case 2

Age / Sex : 20 / F

C.C : #11 #21 tooth fx

PMH : N-S

Hx : 1999. 12. tooth fx with fall down

Tx : 2000. 2. 2

- #11 , #21 IPS Empress 2[®] Laminate veneer Restoration Setting (Variolink II)

R/C : 2001. 5. 11

· Case 3

Age / Sex : 25 / F

C.C : Diastema & Peg lateralis

Tx : 2000. 5. 19

- #11, #12 , #21, #22 IPS Empress 2 Laminate veneer Restoration Setting (Variolink II)

Summary

IPS Empress 2 veneer system was advantageous when veneers required bulk or were under load from function and parafunctional activity.

Practitioners should consider its use for situations that require a stronger veneer material.