شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

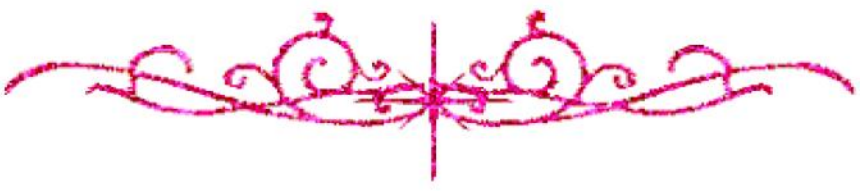
نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

شبكة المعلومات الجامعية

بعض الوثائق الأصلية تالفة



بالرسالة صفحات
لم ترد بالأصل

Effect of Er,Cr:YSGG laser debonding & two surface treatments on color & translucency of Lithium Disilicate restorations

A thesis submitted for the partial fulfillment of the Masters Degree of science requirement in Fixed Prosthodontics, Faculty of Dentistry, Ain Shams University

By

Yasmin Samy Hassan

B.D.S Faculty of Dentistry, Ain Shams University

(2011)

Faculty of Dentistry

Ain Shams University

2020

Supervisors

Dr. Tarek Salah Morsy

Professor & Head of Fixed Prosthodontics Department

Faculty of Dentistry, Ain Shams University

Dr. Fatma Adel

Lecturer of Fixed Prosthodontics

Faculty of Dentistry, Ain Shams University

Faculty of Dentistry

Ain Shams University

2020

Acknowledgments

*First, thanks to **Allah**, to whom I relate any success.*

I am highly thankful to **Dr. Tarek Salah,** Professor of Fixed Prosthodontics, Faculty of Dentistry, Ain Shams University & Head of fixed prosthodontics department, for his immense knowledge, continuous motivation, and kind support. Without his help, this work would never have been possible.

I express my thanks to **Dr. Fatma Adel,** Lecturer of Fixed Prosthodontics, Faculty of Dentistry, Ain Shams University, for the efforts and time he has devoted to accomplish this work.

I also have to thank **Dr. Khaled Kera,** Faculty of Dentistry, Ain Shams University, for his great effort with me in my statistical work.

Finally, I am highly grateful to all staff members at Fixed Prosthodontics Department at Faculty of Dentistry, Ain Shams University, for their great support for me to finish my Master's Degree at the department.

I must express my very profound gratitude to my family for their support and continuous encouragement.

Abstract

Debonding of lithium disilicate restorations represent challenges. To overcome these difficulties, the use of lasers was recently introduced as a more comfortable and more conservative restoration removal technique.

This study evaluated the effect of Er;Cr;YSGG laser debonding & two different surface treatments on color stability & translucency of lithium disilicate restorations

28 ceramic E.max CAD samples were prepared, samples were divided into 2 groups according to thickness whether 0.5 mm or 1mm (each group =14 samples). Each group divided into 2 subgroups according to different surface treatments, whether hydrofluoric acid (n=7) or laser surface modification (n=7). 28 freshly extracted, non-carious bovine permanent incisors were prepared to receive lithium disilicate discs, after bonding of samples to the prepared teeth they were subjected to laser irradiation using specific wavelength Er;Cr:YSGG (2780 nm), debonding time was calculated for each sample. 2 different surface treatments were applied to the samples (acid etching & laser etching) color & translucency was measured before & after debonding & surface treatments. Surface of the samples was analyzed by SEM to evaluate the difference between before & after debonding & surface treatments.

Color measurements for all specimens were performed with CIELab color system using a clinical spectrophotometer. To analyze the effects of surface treatment procedures, color difference was calculated before and after surface treatments on the gray background with the following equation.

Contents

List of Tables

List of Figures