

*FRACTURE RESISTANCE OF VERSACRYL AS
REPAIR MATERIAL FOR COMPLETE
DENTURE*

A Thesis

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BY

Dalia Ahmed Mohammed Abd El Dayem

B.D.S (Cairo University 1999)

FACULTY OF ORAL AND DENTAL MEDICINE
CAIRO UNIVERSITY
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Supervisors

Prof. Dr. Mohamed A. Nada

Professor of Prosthodontics

Head of the Department of Removable Prosthodontics

Cairo University

Prof. Dr. Ahmed Nour El Din A. Habib

Professor of Biomaterials

Dean of the Faculty of Oral and Dental Medicine

Cairo University

Dr. Amal Ali Swelem

Lecturer of Removable Prosthodontics

Cairo University

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Dedicated to

To my Beloved Mother and Father

To my precious Husband

&

My Little Angels Sama, Sara and Mena

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

"وَقُلْ أَعْمَلُوا فَيَسِيرِي اللَّهُ عَمَلَكُمْ وَرَسُولُهُ وَ

الْمُؤْمِنُونَ"

صَدَقَ اللَّهُ الْعَظِيمُ

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Table 2: The experimental design

Test	Control group	Experimental group	Samples no
Fracture resistance test	7 intact dentures	7 dentures repaired with heat-cured resin 7 dentures repaired with self-cured resin 7 dentures repaired with Versacryl	28
Flexural strength test	10 heat cured denture samples 10 self cured denture samples 10 Versacryl denture samples	10 denture samples repaired with heat-cured resin 10 denture samples repaired with self-cured resin 10 denture samples repaired with Versacryl	60
Shear bond test		10 denture samples repaired with heat-cured resin 10 denture samples repaired with self-cured resin 10 denture samples repaired with Versacryl	30
Total no			118

Introduction

The loss of teeth can lead a patient to seek care for functional reasons as they notice a diminished function to a level that is unacceptable to them. Moreover the esthetic impact of tooth loss can be highly significant and may be more of a concern to a patient than loss of function.

A complete denture is a dental prosthesis that replaces all of the natural dentition and associated structures of the maxilla or mandible (**Carr et al 2005**).

Since 1940 polymethyl methacrylate (acrylic resin) has been the most commonly used denture base material. The success of acrylic resin as a denture base material was due to excellent appearance, simple processing and easy repair (**Shen et al 1984**) .

The fracture of polymethyl methacrylate denture base is a common clinical occurrence primarily in the midline of maxillary complete dentures. Regardless of the cause of fracture or the repair material used, satisfactory repair must have adequate strength, good color match, be easy in manipulation and must maintain dimensional stability (**Agarwal et al 2008**).

This study was thus attempted to assess the use of recently introduced thermoplastic material (Versacryl) as a repair material for fractured acrylic resin dentures and compare it to the conventional heat-cured and self-cured acrylic resins as repair materials.