Effect Of Water Storage Conditions On The Marginal Accuracy Of Different Provisional Prosthetic Materials

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بسم الله الرحمن الرحيم

﴿ قَالَ رَبِّ اشْرَحْ لِي صَدْرِي وَيَسِّرْ لِي أَمْرِي

واحْلُلْ عُقْدَةً مِنْ لِسَانِي يَفْقَهُوا قَوْلِي﴾

صدق الله العظيم

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Dedication :

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*To my dear brothers (****Faisal*** *&* ***Fadi****) and sisters.*

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Introduction

Fixed prosthodontic treatment, whether involving complete or partial coverage and natural tooth or dental implant abutments, commonly relies on indirect fabrication of definitive prostheses in the dental laboratory. Historically, the necessity for provisional treatment has been primarily derived from this methodologic process. The importance of interim treatment, however, is more far-reaching than is portrayed by this procedural necessity, and the requirements for satisfactory provisional restorations differ only slightly from the definitive treatment they precede. [(1)]

A provisional restoration is an important part of any successful treatment for fixed prostheses. [(2)] It is used to protect and sedate the pulp of prepared abutments, promote periodontal healing and health, evaluate parallelism of abutments, replace missing teeth, prevent migration of abutments and provide esthetics. Provisional restorations also assist in the development of occlusal schemes and evaluation of phonetics, occlusal vertical dimension and mastication. In addition, they protect abutments from microleakage and chemical injuries and stabilize compromised teeth. [(3)]

Provisional crowns are seated on the prepared abutments at a critical phase of treatment, because soft tissues have been injured inadvertently during tooth preparation .Therefore, the most important morphologic and physiologic requirements for an interim crown is suitable marginal adaptation. [(3)]

Shiny and smooth surfaces without porosities, strength, retention during function, cleansibility, esthetics, comfort, desirable contours and adequate embrasures, harmonious occlusion, and color stability are all factors that have contributed to a well-integrated provisional restoration. [3]

A hastily prepared, poorly adapted provisional restoration can result in plaque accumulation with subsequent periodontal problems that range from gingival inflammation with bleeding to gingival recession, especially when the margins of restorations are placed subgingivally. [3]

Provisional restorations are fabricated using resin based provisional restorative materials. Two major groups of materials, differing in their chemical nature, are currently available: methacrylate resins (liquid/powder, hand-mixed) and composite resin based materials (paste/paste, mainly auto-mixed) [4] .

In order to overcome the proportion and mixing errors of provisional restorations, a new provisional restorative material is recently introduced and supplied in form of machinable block for fabrication using CAD/CAM technology.

The present study intends to evaluate the recently introduced CAD/CAM provisional restorative material in comparison with two currently used resin based provisional restorative materials.