The Use of Osteograf D 700 for Ridge Preservation with and Without The Use of Collagen Membrane

A Thesis submitted to Oral and Maxillofacial Surgery Department, Faculty of Oral and Dental Medicine, Cairo University, for partial fulfillment of the requirements of the Master Degree in Oral and Maxillofacial Surgery

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2010

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بسم الله الرحمن الرحيم

((وعلمك ما لم تكن تعلم وكان فضل الله عليك عظيماً))

صدق الله العظيم

سورة النساء-الآية ١١٣

ACKNOWLEDGMENTS

I would like to express my sincere gratitude and appreciation to **Prof. Mohamed Galal El-Beheiry ,** Professor of Oral and Maxillofacial Surgery, Faculty of Oral and Dental Medicine, Cairo University. I will remain grateful to him for his great help, support, and scientific supervision that enabled me to finish this work correctly.

I am very grateful to **Prof. Hala Zakarya Mahmoud**, Professor of Oral Radiology, Faculty of Oral and Dental Medicine, Cairo University for her effort and time in teaching, advising and encouraging me.

I would like to convey my sincere gratitude to **Prof. Mohamed Ekram**, Professor of Oral Radiology, Cairo University, for his generous effort, committed supervision and great support for guiding me to complete my work.

I am also grateful to **Prof**. **Hala Zaatar**, Professor of Oral Histology, Cairo University and Modern Sciences and Arts University for her unconditional support in the histological part of this thesis.

I would also like to express my sincere gratitude to **Dr. Hesham El Hawary**, Lecturer of Oral and Maxillofacial surgery, Cairo University, for his help in making this work come out in best shape.

At last, I would like to thank all my colleagues for their guidance and support.

Dedication

To my dearest father Professor Abdel Salam El Baz, Professor of Oral and Maxillofacial Surgery, Cairo University. I owe you my whole life, you taught me everything that always makes me who I am.

To my beloved Mother, you deserve more than words to express my deepest appreciation, I am ever so grateful for the full support you gave me. I could have never achieved my goals without your advice and care; you have been always behind any success I reached.

To my sisters, Alaa and Maha - thank you for your support and care… To my lovely niece Jojo… and to the love of my life who taught me everything, without her, I'm incomplete…

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INTRODUCTION

The demand for dental implant continues to rise worldwide. This requires clinicians to give great attention and consideration to socket preservation techniques for later implant placement. The extraction of teeth results in resorption of the alveolar ridge (***Devlin E et al., in 1991 and Jackson BJ et al., in 2007***). This resorption occurs primarily on the buccal aspect; with ridge width most affected but ridge height is also diminished (***Douglas GL et al., in 2005***).

Today, it is possible to reduce the loss of alveolar bone height and width by methods to preserve the socket at the time of extraction, thus providing a better site for implant placement.with greater bone to implant contact by allowing the insertion of wider and longer implants (***Wang HL et al., in 2004***). The healing of untreated extraction sockets results in filling of the socket area with vital bone but with a significant loss in ridge volume, which is of prime importance for future placement of implants (***Darby I et al., in 2008***).

Several socket preservation techniques are used, these techniques are based on the principle of Guided Bone Regeneration, where either resorbable or non resorbable membranes, with or without grafting materials can be used (***Krauser JT et al., in 2001***).

The use of autogenous bone has always been advised, but at times, autogenous bone harvesting is not feasible, where now the alternatives are allografts, xenografts or alloplastic materials (***Minsk L et al., in 2005***).

Recent advances in barrier membranes and bone grafting materials along with good surgical technique, led to predictable treatment methods for proper preservation of alveolar bone with subsequent implant placement.

REVIEW OF LITERATURE

Alveolar ridge resorption is frequently observed after tooth extraction. This resorption causes esthetic problems for conventional or implant supported prosthesis placement and surgical problems by making the placement of implants difficult or even impossible (***Callan DP et al., in 2000).***

Undisturbed extraction sockets heal uneventfully with bone tissue one to two months following extraction. This healing usually occurs with marked reduction of the original height and width of the alveolar bone, which in some cases, may aesthetically compromise an implant supporting prosthesis (***Callan DP et al., in 2000***).

A study was conducted to study age changes in humans and found that the reduction in residual ridge height may be similar to disuse osteoporosis, which occurs with the complete immobilization of any bone, the effect of which causes thinning and gradual porosity in bone (***Manson JD et al., in 1962***). The importance of preserving alveolar ridge is that complete denture wearers, when implant placement was still inadvent, have a reduced biting force in comparison with their dentate counterparts. This reduced biting force, results in minimal amount of