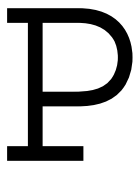
قَالُوا سُبْحَانَكَ لاَ عِلْمَ لَنَا إِلاَّ مَا عَلَّمْتَنَا
إِنَّكَ أَنْتَ العَلِيمُ الحَكِيمُ



سورة البقرة: آية "٣٢".

The Effect of Polylactic Acid and Polyglycolic Acid on The Healing Of Bony Defect

(Clinical Study)

Thesis Submitted In Partial Fulfillment Of The Requirement For Master Degree In Oral Surgery

By

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المشـــــــرفـــــــون

الاستـــــــاذ الدكتـــــــور:حســـــين محـمد الطنـانى

اسـتاذ جراحـة الفم و الوجـه والفكـين ،كلـية طـب الـفم
والاسنـــــــان، جامـعة القـاهرة

الاستـــــــاذ مساعد الدكتـــــــور: إيـهـاب بســـــــيونى

اسـتاذ جراحـة الفم و الوجـه والفكـين المساعد ،كلـية طـب الـفم
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Dedication

<u>To my mother:</u> *who has been inspiring and encouraging with unreserved understanding throughout the course of my study years.*

<u>To my father</u> *who was always beside me and support me through my whole life.*

And to everyone who supported me in my life

God bless them all

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INTRODUCTION

AND REVIEW OF LITERATURE

The treatment of benign cysts of jaw is done through one of the following procedures:-

1) Enucleation 2) Marsupialization

Enucleation is defined as: complete removal of cyst wall and its contents. It is indicated in the following cases small or moderate size cysts, cyst not encroaching on neighboring vital structures (maxillary sinus- nasal cavity- inferior alveolar canal), cysts that do not involve soft tissue (intra bony cyst), Patient that can withstand surgical interference

There are 3 types of enucleation:-

1) Enucleation with immediate closure:

If the cavity is small (in case of small size cyst), primary closure should be considered, soft tissues are approximated with sutures and wound heals with primary intention without packing.

2) Enucleation with packed open technique:

In case of large size cyst or infected cyst or severe bleeding, the wound should not be closed and healing will occur by secondary intension

with gradual apposition of granulation tissue from the borders of the cavity. In this case, sterile ribbon gauze packing (iodoform gauze, white heads varnish gauze, or tine of benzoin) may be placed in the created surgical defect to control bleeding to prevent large hematoma formation and to drain infection and to promote healing. The defect should be irrigated periodically and dressing replaced to remove any debris.

3) Enucleation with obliterating substance:

An obliterating material is put in the bone cavity to act as scaffold in large cysts. (Obliterating substance help the blood clot to organize into granulation tissue and permitting healing by secondary intention).

Enucleation leaves opening to the cyst covered by a mucoperiosteal flap and the space filled with blood clot which eventually organizes to form normal bone. It has been found that if the bleeding is stopped by firm pressure with dry gauze swab before suturing the reflected flap back into correct position, sufficient blood will subsequently seep into the operative area to fill the cavity. This ensures the retention of an amount of blood clot consistent with satisfactory organization and, later, new bone formation.

Marsupialization is a technique that treats cysts by surgically producing a window in the capsular wall to relieve intracystic tension. This is done only to large cysts. Otherwise continuity of cyst membrane will be re-established and the cyst will refill and continue to expand. Marsupialization is permanent

treatment for soft tissue cyst as ranula, but temporary treatment for intra bony cyst, it should be followed by enucleation; the lesion is initially and temporary treated by marsupialization until the cyst is reduced in size and the enucleation is done to remove all remaining pathology.

Marsupialization is indicated in large cysts that are weakening the jaw (endanger continuity of jaw), soft tissue cysts, cysts approximating vital teeth, cysts related to maxillary sinus or inferior alveolar canal, dentigerous cyst or eruption cyst to allow teeth to erupt, elderly patient and inaccessible cyst as in maxillary tuberosity area.

Healing of bone is unique phenomenon occurring in human beings. recent advancements in the understanding of bone physiology, immunologic concepts, tissue banking procedures and surgical principles have made possible the successful reconstruction of most maxillofacial bony defects .[1]

Normal bone healing involves immediate tearing of vessels of bone in haversian canals periosteum and marrow cavities. Which leads to blood clot fills the bony defect then organization of blood clot begins within the first twenty hours with leukocytic migration with capillary budding and fibroblastic proliferation, then clot is reabsorbed by macrophages and gradually replaced by fibrin proliferation then clot is reabsorbed by macrophages and gradually tissue fills the bony cavity. Subsequently, new