



**A Comparative Study of the effect of
Chamomile and Triamcinolone Acetonide
on Chemically Induced Ulcer in the Rabbit
Labial Mucosa
(Histological and Immunohistochemical Study)**

Thesis

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By

Ingy Jaber Azab Ahmed

B.D.S (Ain Shams University-2007)
Oral Biology Department

Under supervision of

Ass.Prof.Dr.Rania Mossad Hassan

Assistant Professor of oral Biology
Faculty of Dentistry -Ain Shams University

Dr. Dahlia Ghazy Mohamed

Lecturer of oral Biology
Faculty of Dentistry Ain Shams University

**Faculty of Dentistry
Ain Shams University
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا^ط
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ

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Dedication

*I would like to dedicate this work
To the soul of my beloved father,
God please him,
To my dear mother,
Who made me what I am today,
And of course to my lovely sisters and
brothers, thank you for giving me all time,
support and love that I needed.*

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
ECM	Extra cellular matrix
H&E	Haematoxylin and Eosin
hrs	hours
i.p.	Intraperitoneal
kg	kilogram
mg/g	Milligram per gram of body weight
mg/Kg	Milligram per Kilogram of body weight
mm	millimeter
min	minute
MMP	mucous membrane pemphigoid
NF-kB	Nuclear Factor Kappa beta
OLP	oral lichen planus
PCNA	anti-proliferating cell nuclear antigen
RAS	Recurrent aphthous ulcer

SD	Standard deviation
St. error	Standard error
TCs	Topical corticosteroids
TNF	Tumor necrosis factor
WHO	World health association

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Abstract

Aim: The aim of this study was to evaluate the possible anti-ulcer effect of Chamomile in comparison with Triamcinolone Acetonide on the labial mucosa of Newzeland rabbits where ulcer was induced by acetic acid.

Materials and methods: oral mucosal labial ulcer were induced by 50% acetic acid in forty two male Newzeland rabbits weighing approximately 1Kg. Rabbits were divided into three groups 24 hours after ulcer induction: the Untreated group where ulcers were left untreated, the Chamomile group where Chamomile was topically applied to the ulcer twice daily and the Triamcinolone Acetonide groups where Triamcinolone Acetonide was applied to the ulcer twice daily. All groups were subdivided to be sacrificed 2 and 7 days after ulcer induction. The labial mucosa from the ulcer area together with its margin was excised and prepared for histological examination and immunohistochemical analysis using mouse anti-proliferating cell nuclear antigen (PCNA). **Results:** Examination of H & E stained sections of rabbit's labial mucosa of both group IA (Untreated 2 days) and group IIA (Chamomile 2 days) revealed marked discontinuity of the covering epithelium with the presence of inflammatory cells infiltration in the underlying lamina propria of the ulcerated area, while in group IIIA (Triamcinolone Acetonide 2 days) revealed partial reepithelialization of basal and suprabasal cell layers of the ulcerated area. Group IB (Untreated 7 days) revealed incomplete reepithelialization of the ulcerated area. Group IIB (Chamomile 7 days) showed complete reepithelialization with well-arranged epithelial layers and short rete

pegs. Meanwhile, group IIIB (Triamcinolone Acetonide 7 days) revealed complete reepithelialization with mild folding of the rete pegs, the epithelial layers appeared to be disorganized and didn't completely restore the normal arrangement. Statistical analysis for the number of the PCNA positive cells revealed insignificant difference between Untreated group and treated groups (Chamomile and Triamcinolone Acetonide) at 2 days, significant difference between Untreated group and treated groups (Chamomile and Triamcinolone Acetonide) at 7 days while showed insignificant difference between Chamomile group and Triamcinolone Acetonide group at 2 & 7 days.

Conclusions: Treatment of acetic acid induced ulcer with Chamomile was almost comparable to Triamcinolone Acetonide in accelerating the healing process of the oral ulcer 7 days after ulcer induction.