Cairo University
Faculty of Veterinary Medicine
Department of Pathology

Histopathological and Immunological Evaluation of Canine Amniotic Membrane Implantation in Rabbits

Thesis presents by

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For MVSc. Degree in Pathology

(general, special and post mortem)

Under the supervision of

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Title of Thesis

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Under the supervision of

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Abstract

Key words: (Amniotic membrane, cutaneous wound, healing and Pividone iodine)

This study was designed to evaluate the canine amniotic membrane (AM) as biological dressing for deep ulcerated cutaneouse wound artificially induced in rabbits at different stages of wound healing and highlight its effect on oxidative stress indicators and antioxidant status in serum and wound granulation tissue and the concentration of hydroxy proline in wound tissue. Collection of AM from healthy full term pregnant bitch for further processing and preservation procedures. 27 New Zealand white male rabbits were divided into three groups (group I that was dressed by AM, group II that was dressed by Pividone iodine and group III that was kept untreated as control group and all were subjected for wound induction) .serum samples were collected at 7 days post wounding for evaluation of oxidative stress markers while tissue specimens were collected at 7, 14 and 21 days post wounding for histopathological and immunohistochemical evaluation. Results revealed that wounds that was dress by AM showed reduction in oxidative stress indicators , elevation in hydroxy proline content , promotion of wound healing and contraction, rapid epithelization and compared with the other groups.

Supervision Sheet

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Dedications

To my mother

To my father

To my husband

For their prayers,

help and motivation

to overcome obstacles

the way of this work

SCIENTIFIC ABBREVIATION

AECs	Ammniotic epithelial cells
AM	Ammniotic membrane
AMMs	Ammniotic mesenchymal cells
bFGF	Basic fibroblast growth factor
CD.	Cluster of differentiation
DAB	Diaminobenzidine
DMAB	Dimethyleaminobendaldehde
DMSO	Dimethyl sulphoxide
DPPH	1-Diphenyl-2-picryl-hydrazyl
ECM	Extra cellular matrix
EGF	Epidermal growth factor
FGF	Fibroblast growth factor
FTSG	Full thickness skin graft
HCL	Hydrochloric acid
HIV	Human immunodeficiency virus
[HLA – A, B, C.]	Human leukocyte antigen complex
HRP	Horseradish peroxidase
IFN	Interferon
IgG	Immunoglobulin G

IL-I α , β	Interleukin – I Alpha and Beta
KGF	Keratinocyte growth factor
LPO	Lipid peroxidation
MDA	Malondialdehyde
MHC	Major histochompitability class II
NADH	Nicotinamide adenine dinucleotides
PBS	Phosphate buffere saline
PDGF	Platelet – Drived Growth Factor
SLPI	Secretory leukocyte
SOD	Super oxide dismutase
STSG	Split – thickness skin graft
TGF - α	Transforming Growth Factor Alpha
TGF - β	Transforming Growth Factor beta
TIMPS	Tissue inhibitor metalloporteinaser
TNF - α , β	Tumor necrosis factor alpha and Beta
VEGF	Vascular endothelial growth factor
α SMA	Alpha smooth muscle action

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