UNIVERSITI TEKNOLOGI MARA

EFFECT OF TEA TREE OIL ON HYPERTROPHIC BURN SCAR

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Dissertation submitted in partial fulfilment of the requirements for the degree of

Bachelor of Pharmacy (Hons)

Faculty of Pharmacy

2014

ABSTRACT

The effect of tea tree oil on hypertrophic burn scar in rat models was investigated. The rats were divided into 3 groups namely control rats, rats receiving tea tree oil at concentration A, as well as rats receiving tea tree oil at concentration B. The wound was induced onto the dorsal region of rats by means of thermal injury. Subsequently, mechanical stress was applied onto the wound to initiate hypertrophic scar formation. The morphological study was carried out from day 0 to day 30 while histological analysis using Harris Haematoxylin and Eosin was performed at day 30. At the end of the study, wound healing was progressive for all three groups with the smallest appearance of normal scar was observed for group A. No hypertrophic scar was formed at day 30. Significant irritation was observed for group A and B. Further studies will be needed to determine the minimum concentration of tea tree oil suitable for the treatment of scar.

ACKNOWLEDGEMENTS

First and foremost, my greatest appreciation to Allah S.W.T because of His Blessing, I am able to finish this study successfully.

I would like to express my deep gratitude to Dr. Nor Khaizan binti Anuar, my research supervisor, for her patience guidance, encouragement and useful critiques throughout this research work. I would also like to extend my thanks to Asssoc. Prof. Dr. Wong Tin Wui for the opportunity given to work at the Non-Destructive Biomedical and Pharmaceutical Research Centre, Faculty of Pharmacy, Universiti Teknologi MARA (UiTM).

Special thanks to my colleague, Aedy Zulhelmi bin Akman for the hardwork, cooperation and ideas that we shared. Next, I wish to thank and give my special love to my parents who are always encourage me to do well and finish my study. Special thanks also go to my best friend, Mohamad Nadzlen bin Ahamad for helping me a lot throughout this study.

Last but not least, I would like to give my gratitude to all of my friends, all the lecturers and staff of Faculty of Pharmacy, UiTM for all their guidance and kindness throughout the study.

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CHAPTER ONE

INTRODUCTION

1.1 OVERVIEW

1.1.1 Skin Morphology

Skin is known to be the protective barrier of the body and also acts as the first line body defense against microbial infection. It is the largest organ of human body. Skin is ideal for therapeutic agents for both locally and systemically. Skin is made up of two main layers which are epidermis and dermis. The subcutaneous fat is composited below epidermis and dermis. Skin is the organ of the body where wound healing and scar formation take place. The understanding of morphology of the skin may help to further enhance the knowledge of scarring process.

Figure 1.1 : Skin morphology [1]