

UNIVERSITI TEKNOLOGI MARA

USE OF OLIVE OIL AS A SCAR PREVENTIVE AGENT

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ABSTRACT

The effect of olive oil was investigated on the burn wound as well as hyperthropic scar by using rat models. The rats were categorized into three groups; normal rats, control rats and rats, which undergone the treatment of Olive oil. The wound of the rats was induced at the dorsal region and by thermal injury method. Afterwards, the mechanical force was applied to the area of the burn wound to generate hyperthropic scar. The histological study was performed on day 45 by using Haematoxylin and Eosin stain and Van Gieson stain to comprehend the components in the epidermis and dermis, as well as to detect the presence of collagen and elastic fibre. At the end of the investigation, wound healing was progressed in the control group and the treatment group, but the hyperthropic scar was not formed at day 45. The treatment group with olive oil showed the smaller scar compared to the control group. In the future, the studies will be necessary to know the effective of Olive oil in treating hyperthropic scar.

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CHAPTER 1

INTRODUCTION

1.1 Research Background

Skin is a major external organ that contacts with environment to protect our internal organ such as heart, lung, intestine and others from foreign substances that may harm our body. The skin have several functions such as insulation, sensation , thermoregulation, synthesis of vitamin D and first line defense in immune system. The skin is also a part of the delivery drug system topically by administering the particular drug onto the skin and the particles of the drug are absorbed through the layers of the skin.

The physiology of the skin is composed of epidermis and dermis that possess many layers (McLafferty, Hendry, & Alistair, 2012) . Epidermis is an outermost layer that composed of five layers or strata ;they are stratum corneum, stratum lucidum, stratum granulosum, stratum spinosum and stratum germinativum while dermis is composed of fibroblasts and collagen then basement membrane zone is intermediate between epidermis and dermis (McLafferty et al., 2012). Epidermis have distinctive cells that located in each strata that contribute to the thickness and layer of the epidermis for instance keratinocytes, melanocytes, merkel cells and langerhan cells (Fluhr et al., 2012). Dermis is the innermost layer that locate blood vessel, nutrients ,lymphatics and sensory nerves that each substance have roles to maintain the homeostasis in our body that contact with external environment via a skin (McLafferty et al., 2012).

There are some factors that may influence the thickness, colour and function of the skin. The factors are relative humidity, temperature, altitude and pollution (Singh & Maibach, 2013). Moreover, our skin persistently exposed to the risks such as radiation, environmental