

UNIVERSITI TEKNOLOGI MARA

**USE OF OLIVE OIL IN PREVENTING HYPERTROPHIC
BURN SCAR FORMATION**

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ABSTRACT

This project aimed to study the effect of olive oil in preventing hypertrophic burn scar formation by applying olive oil topically. Two types of olive oil were used as preventive treatment of hypertrophic scar which were virgin olive oil and pure olive oil. Sprague Dawley rats were used as animal models to form hypertrophic burn scar by introducing both scalding water and mechanical pressure on the burn wound. Nevertheless, after 30 days of wound healing, normal scar were formed instead of hypertrophic scar in all group of rats. Rats that received olive oil treatment showed small size of normal scar compared to the untreated rats.

Keywords: hypertrophic scar, normal scar, burn wound, olive oil, rats.

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CHAPTER 1

INTRODUCTION

1.1 RESEARCH BACKGROUND

Scar is composed of fibrous connective tissue that substitute the tissue that involve in injury [1]. It consist of collagen fibre that produce naturally during wound healing process [2]. Formation of scar is a failure process of normal connective tissue formation that usually occur in secondary healing intention which wounds involve extensive loss of epithelium with large defect of sub epithelium tissue [3].

Wound healing is a process of tissue repair at the site of injury that involve inflammatory process, proliferative process and remodelling phase [4-10]. The wound lesion is proportional to the proliferative process which involve re-epithelialization and angiogenesis while the remodelling processes will result an imbalance or balance production of collagen in which excess accumulation of collagen will induce scar formation [4].

Wound healing will start as result of skin disruption either due to accidently or intentional cause and diseases [11]. The immediate response in wound healing is haemostasis which involve the development of fibrin clot and coagulation preventing the blood loss [12]. First haemostasis is formation of fibrin clot which involve the platelet as the main role [12]. Platelet will aggregate due to some activator from extracellular matrix like fibrillar collagen, fibronectin and other adhesive matrix protein [12-13]. The platelets aggregation will release mediator like serotonin,