

## Wound Care with *Euphorbia* Honey after Nucleation: A Case Report

Khiati B<sup>1</sup>, Bacha S<sup>1,2</sup>, Ahmed M<sup>1,2\*</sup>, Aissat S<sup>1,2</sup>, Meslem A<sup>1,2</sup> and Djebli N<sup>2</sup>

<sup>1</sup>Institute of Veterinary Sciences University Ibn-Khaldoun, Tiaret, Algeria

<sup>2</sup>Pharmacognosy & Api-Phytotherapy Research Laboratory, Mostaganem University, Algeria

### Abstract

Honey has been used on wounds since ancient times. The present case report describes the post-operative care of an infected wound by use of honey. The wound was first cleaned with saline, and then the honey ointment was applied gently to the wound, using a glove. Granulation tissue and epithelisation were growing quickly and without complications, and scar formation was fine. *Euphorbia* honey applied was selected according to their anti-inflammatory, analgesic, and antibacterial capacity as well as their capacity to promote wound healing.

**Keywords:** *Euphorbia*honey; Wounds; Algeria

### Introduction

The increased interest in complementary therapies has led to the investigation of products traditionally believed to have a beneficial effect in wound healing. Honey presents plenty of biological and pharmacological properties, such as immunomodulatory, anti-inflammatory, debriding action, antioxidant, antibacterial, activities, among others [1-7]. The efficiency and efficacy of the topical application of honey on burns have been reported by previous study [8-10]. *Euphorbia* honey is a type of honey produced locally in Algeria. Therefore, the present study showed that topical application of *Euphorbia* honey eye enucleation in cow.

### Treatment Plan

The wound was first cleaned with saline, and then the honey ointment was applied gently to the wound, using a glove. The wound was not covered by a secondary dressing. For the first days the wound was treated one to two times a day (Figure-1).

### Discussion

Enucleation is one of the most common orbital surgical procedures performed in cattle [11]. Wounds are of great concern in animals as they affect animal productivity and their treatment represents an economic burden to the owners particularly in developing countries [12,13]. Many studies have been carried on the effectiveness of honey in promoting the healing of standardised wounds created on experimental animals [14,15]. Bang and coworkers [16] described the antibacterial

effect of honey as a result of hydrogen peroxide production by glucose oxidase in the wound. In addition, the hydrogen peroxide contained at low levels in honey also stimulates angiogenesis [17]. Efem [18] in a study reported that honey debrided wounds rapidly, replacing sloughs with granulation tissue. Honey is mildly acidic and has a pH between 3 and 4 Topical acidification of wounds promotes healing [19]. The glucose content of honey would also explain the very rapid removal of malodour from infected wounds that results when wounds are dressed with honey [20]. Honey has been shown to enhance granulation tissue formation and epithelialization, possibly via their stimulatory activity on the tissue macrophage [20]. Honey also provides antioxidants which protect wound tissues from the damage imparted by free oxygen radicals released from inflammatory cells. In our case after application of *Euphorbia* honey, after debridement, resulted in relieving edema and inflammation around the wound, remarkable decrease of exudation from the wound, disappearance of infection and observable decrease of wound surface after one week and significant reduction in wound size after 2 weeks of treatment (Figures 2-4). In conclusion, Algerian honey was beneficial in healing of traumatized wounds in cattle.



Figure 1: 19May, 2013-Wound directly after the accident.



Figure 2: 22May, 2013 —eyeafter 4 days of honey treatment.

\*Corresponding author: Ahmed Moussa, Institute of Veterinary Sciences University Ibn-Khaldoun, Tiaret, Algeria, Tel: +213 65234059; Fax: +213 46 425001; E-mail: [moussa7014@yahoo.fr](mailto:moussa7014@yahoo.fr)

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Figure 3: 28 May, 2013—eyeafter 10 days of honey treatment.



Figure 4: 30 May, 2013 — eyeafter 12 days of honey treatment.

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