



Using Beeswax, Olive Oil and Centaury Oil for Pressure Ulcers

 Tuba KARABEY^a,
 Şerife KARAGÖZOĞLU^b

^aDepartment of Fundamentals of Nursing,
Tokat Gaziosmanpaşa University
Faculty of Health Science,
Tokat, TURKEY

^bDepartment of Fundamentals of Nursing,
Cumhuriyet University
Faculty of Health Science,
Sivas, TURKEY

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Correspondence:

Tuba KARABEY
Tokat Gaziosmanpaşa University
Faculty of Health Science,
Department of Fundamentals of Nursing,
Tokat, TURKEY
tubakarabey@hotmail.com

ABSTRACT When soft tissues are exposed to pressure, ischemia occurs. If the pressure becomes continuous, necrosis starts in the subcutaneous tissue and gradually progresses to the surface and finally the skin is affected. Different methods are used in the treatment of pressure ulcers. As in all the other fields of health, observation is very important in the care and monitoring of a wound. In this case report, the effect of beeswax, olive oil and centaury oil on wound healing is presented in a 24-year old patient with hypoxic brain with a 3rd degree pressure.

Keywords: Beeswax; olive oil; centaury; pressure ulcers

Pressure ulcers are ischemia, cell death and tissue necrosis that occur as a result of continuous and prolonged pressure to any area.¹ The National Pressure Ulcer Advisory Panel (NPUAP) founded in 1987 as an organization for the prevention, care, treatment and research of pressure ulcers defined pressure ulcer as “localized skin and / or subcutaneous tissue damage over bony prominence caused by pressure alone or pressure in combination with shear”.²

Olive oil and beeswax are the products that have positive effects on the wound healing process when used in wound care and treatment thanks to flavonoids and antioxidants they have, and that when they are applied topically, the antibacterial and antifungal compounds they have affect the production of cytokines by skin cells.^{3,4}

The review of the studies conducted on the issue demonstrated that using beeswax as a wound dressing accelerates the wound healing process.⁵⁻¹⁰ Below is presented a patient with 3rd-degree pressure ulcers in the left dorsogluteal region, and the effect of a mixture used for wound care on wound healing.

CASE REPORT

A 26-year-old married homemaker who just gave birth to her only child was brought to the emergency department by her family because she attempted to commit suicide by hanging herself. After the first intervention, the patient was monitored in the anesthesia intensive care unit for one

month was diagnosed with hypoxic brain and referred to the palliative care service. The patient had a PEG tube and foley catheter. The patient appeared cachectic, and she had decreased skin turgor and tone. The pressure ulcer had developed during her stay in the intensive care unit and her pressure ulcer treatment was started there. According to the test results, the patient's albumin level was 4.1 g/dl, vitamin D3 level was 40 ng/ml, ALT level was 30 u/l, AST level was 32 u/l, Hgb level was 13.6 g/dl and blood glucose level was in the normal range.

The treatment plan of the patient was arranged at the palliative care service. The physician ordered to use the combination of active ingredient Hamamelis Virginiana and Gumus Sulfadiazin for pressure ulcers twice a day and at any time the dressing became dirty. During one-month period, in addition to the individualized care given for pressure ulcer, the treatment ordered by the physician was applied. However, no effective results were obtained for wound healing during this period. The primary nurse of the patient informed the health team in the clinic about her condition. Since the mixture of olive oil, wax and centaury oil mixture is known to be effective in treatment of burns, a special cream consisting of 200 cc olive oil, 50 g beeswax and 5 cc centaury oil was prepared to use at every dressing with the approval of the clinical team and verbal informed consent had been obtained from the family. The

physician changed his order, and in the morning dressing, the combination of active ingredient Hamamelis Virginiana and Gumus Sulfadiazin in the evening dressing, this special cream prepared in the clinic was used for 35 days.

At the end of the application, it was observed that the third stage pressure ulcer in the left dorsogluteal region regressed to the 2nd stage (Figure 1).

The results of the evaluation made according to the Pressure Ulcer Scale for Healing (PUSH) are given in (Table 1).

DISCUSSION

Risk factors affecting pressure ulcer and development, high morbidity and mortality rates are infection, pain, and depression. Sepsis is the most severe form of infection especially in the elderly patients with impaired nutrition and immune deficiency. Pressure ulcer, prolonging the patient's healing process is a health problem that causes delays in assuming responsibilities and increasing the cost of maintenance economically.⁹ There is no ideal and universal method used for the prevention and treatment of pressure ulcers. However treatment includes nutritional support, reduction of pressure, medical and surgical treatment of the wound. Treatment of infected pressure sores includes adequate drainage, complete debridement, elimination of dead spaces, wound care and an-



FIGURE 1: 2nd degree, 8 cm², Amount of exudate (1), Tissue type (2); 3rd degree, 9 cm², Amount of exudate (2), Tissue type (3).

TABLE 1: PUSH scores prior and after the application of the mixture.

Length x Width (in cm ²)	9	Length x Width (in cm ²)	8
Amount of exudate	2	Amount of exudate	1
Tissue type	3	Tissue type	2

timicrobial treatment. One of these treatment methods is the wax mixture. The cost of this mixture is low, it is easy to be applied as some superiority is available.¹¹ A good treatment can be achieved by avoiding risk factors, taking preventive measures and using various methods related to wound care.¹² In such treatment, team cooperation is extremely important.¹³

The review of studies conducted on the issue demonstrated that using beeswax as a wound dressing accelerates the wound healing process.⁵ In their study on rats (2015), Akhoondinasab et al. reported that the use of beeswax shortened the healing process of second- and third-degree burns.⁶ In their study (2017), Gümüő and Karaman Özlü found that the mixture of beeswax and olive oil accelerated the healing process in patients with second-degree burns, alleviated the pain and shortened the duration of hospitalization. In a case report by Paulsen et al. (2012), a mixture which also included beeswax and olive oil was used in the treatment of a patient with dermatitis and found to be effective.^{7,8} In their study (2016), Fahimia et al. reported that the use of beeswax in the treatment of burns was effective.¹⁰

In the aforementioned patient, during the provision of wound care and monitoring of the wound, the physician, dietitian and nurse coordinated in all stages from her admittance to the palliative care

department until the wound healing process. While the dietitian made the calorie calculation in accordance with the daily needs of the patient, the service nurse took care of the patient regarding fluid intake, feeding, movements in bed, regular position change, and care and monitoring of the wound. The treatment ordered by the service physician was carried out and the test results were evaluated by the team. As in all the other fields of health, observation is very important in the care and monitoring of a wound. Nurses, who provide care to the patient for 24 hours, who have the responsibility to determine the current situation, potential risks and needs of the patient and carrying out the whole process with the team, also play an essential role in the care and monitoring of wounds.

In this case, the use of beeswax, olive oil and centaury oil in the treatment of the 3rd degree pressure wounds was found to be effective on wound healing (Figure 1).

Source of Finance

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

All authors contributed equally while this study preparing.

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