



Folk medicine: Is the solution or problem?

Fatih Ceran¹, Salih Onur Basat¹, Asli Datli¹, Emin Kapi², Mehmet Bozkurt¹

ABSTRACT

Aim: A variety of traditional first aid methods in the treatment of burns have been developed. These treatment modalities can bring unusual medical issues. We present a traditional burns first aid method 'shoe polish applying' for scald burns.

Methods: 5 patients (Male: 3, Female: 2), who applied shoe polish to burns due to scald burns, were admitted to our burn centre between 2002 and 2015. The mean age was 29.8 (range: 20 -53). Olive oil impregnated gauzes were applied to facilitate removing the paint at the night before the operation. Mechanical debridement by using Versajet (Smith & Nephew, London, UK) was performed while patients were under general anesthesia.

Results: The shoe polish was removed from all of the patients. Burned areas healed after appropriate dressings and no skin graft application was needed.

Conclusion: The Versajet Hydrosurgery System and olive oil or other oily substances usage has strong effects on the treatment. Permanent black tattoos can occur in the later stages, if patients do not take proper treatment.

Key words: Burns, folk medicine, traditional, scald, versajet

Introduction

Identified burns first aid protocol includes the following steps: stopping the burning process, reducing pain, cooling, and closing by appropriate burn dressing [1]. The materials used during the first aid should not be in a condition that would prevent the evaluation of the burn. Therefore, using materials, such as adhesive properties found in creams, lotions, oils and other dressing materials is not recommended. The use of such materials makes difficult to understand and realise the depth and extent of the burns and causes serious pain during dressing change [2]. Traditional treatment methods, which do not meet these specifications, are still applied in minor burns or burn patients who did

not receive first aid in particular.

Historically, many unconventional methods have been described for the treatment of burn patients. Some of these methods, even though some are quite bizarre, are still used by different communities in the world today. There is not enough data to the support clinically usefulness of these methods quite common among people [3]. Ink [4], soy sauce and vegetable oils [5], toothpaste [6,7], honey [6], eggs [8], butter [8], African traditional methods of wound care (mud, burned snail shell, a mixture of urine, or cow dung) [9], and licking [10] are some of these traditional methods.

We present a traditional burns first aid method 'shoe polish applying' for scald burns in this paper.

Author affiliations : Department of Plastic, Reconstructive and Aesthetic Surgery ¹Bagcilar Training and Research Hospital, Istanbul, Turkey ²Adana State Hospital, Adana, Turkey

Correspondence : Mehmet Bozkurt, MD, Department of Plastic, Reconstructive and Aesthetic Surgery, Bagcilar Training and Research Hospital, Istanbul, Turkey. e-mail: drmbzkurt@yahoo.com

Received / Accepted : January 30, 2017 / September 28, 2017



Figure 1. View of the patients on admission to hospital.

Patient	Age	Sex	Burn etiology	Number of the debridement	Burned areas
1	20	Female	Scald Burns	3	Both gluteal, posterior thigh and legs
2	53	Male	Scald Burns	2	Right upper extremity
3	22	Male	Scald Burns	2	Both upper extremities
4	35	Male	Scald Burns	3	Right upper extremity and thigh
5	19	Female	Scald Burns	0	Both upper extremities

Figure 2. Demographic and medical characteristics of the patients.



Figure 3. Versajet Hydrosurgery System usage.

Materials and Methods

5 patients applying shoe polish to scald burns were admitted to our burn centre between 2002 and 2015 (Figure 1). 3 of the patients were male and mean age was 29.8 (range: 20 - 53) (Figure 2). The common characteristic of the patients was applying black shoe polish to burns areas instead of getting immediate medical assistance. Intractable pain from the burned



Figure 4. View of the patients after debridements.



Figure 5. Patient with evident tattoo on both upper extremities.

area was the main reasons for resorting to emergency services. The percentage and depth of the burn areas could not be determined with certainty during initial assessments. The polish could not be removed by using hydrodebridements during follow-up procedures. Mechanical debridement by using Versajet (Smith & Nephew, London, UK) was performed while patients were under general anesthesia (Figure 3). Olive oil impregnated gauzes were applied to facilitate removing the polish at the night before the operation. The pain was removed easier by using Versajet and serial procedures were performed to completely remove.

Results

The polish was removed from all of the patients who were operated by using Versajet. Burned areas healed secondarily after receiving appropriate dressings and no skin graft applications were needed. There was no color change or tattoos due to shoe polish during the follow-up period (Figure 4). A patient followed out after first acceptance to emergency department by his own request. The patient stated that he was followed in another centre. The shoe polish have been tried to eliminate by using scalpel or other surgical instruments. The intense black color change was observed in the left wrist (Figure 5).

Discussion

In the treatment of burns throughout history, many different methods have been used. According to data obtained from the Ebers Papyrus from 1500 BC, treatment with breast milk was the oldest method – it was developed by the ancient Egyptians [3]. Animal and plant extracts were often used increasingly in the treatment of burns from this date. Many topical treatments such as wine and vinegar used in the Roman period, of the fat blend used in the 1800s, at the beginning of the 1900s used the tannic acid and picric, and cold water usage are some examples [11]. During 1800s, people believed that disconnecting contact with air reduced pain and prevented further damage formation. In 1886, Martin argued that the easiest thing you can reach for is the best option for the treatment of severe burns [12].

This idea continued to be utilized throughout history. Ink [4], soy sauce, vegetable oils [5], toothpaste [6,7], honey [6], eggs [8,13], butter [8], and saliva [10] are currently used in first aid for burns patients. The lack of any scientific basis for these treatments is not surprising. The frequent use of unlike traditional methods in the treatment of burns is not difficult to understand especially in developing countries. The pain occurring at the time of burn makes people helpless to mitigate the pain. Contact with the air increases pain gradually on newly formed burned area and performing a substance that cools and cuts the contact with the air appears to be an effective treatment option to patients in desperate.

Closing the burned area with a substance that can be found easily occurred environment can provide temporary relief of pain. Heat trapped inside as a result of interruption of air contact with the burned area will continue to harm the wound [14]. Most substances applied for conventional treatments in acute phase prevents the determination of the depth and width of the burned area. Removing these products from the burn area would cause pain to the patient. Sometimes, surgical debridement is needed to remove these substances [2].

Surgical debridement is an important step in the treatment of burn patients. The removal of necrotic and infective tissue from normal tissue accelerates the healing [15]. Typically, two types of burn debridement options are used - fascial and tangential excision. Tangen-

tial excision is performed by using special knives such as Goulian/Weck or Watson and these knives provide fast surgical debridement in smooth areas. These knives are not suitable for use in concave areas such as face, ear, and web spaces of hand and it is difficult to achieve the same depth in all areas [16].

The percentage width and depth of the burn areas could not be determined with certainty during the initial assessments for these patients. We thought that shoe polish can easily penetrate intact skin and penetrate the burned skin easier. This may cause a tattoo after wound healing. It was not possible to remove of paint applied to the burned area. We used the Versajet Hydrosurgery System working with principle of the Venturi effect [17]. This product eliminates shoe polish in a perfect manner and provides minimal damage to remaining healthy tissue. Olive oil impregnated gauzes were applied to facilitate removing the paint at the night before the operation, because oily substances have solvent effect on the adhesive agents such as paint [18]. Black shoe polish was removed totally without increasing the depth of burn. Thus, the occurrence of unwanted tattoo appearance in the postoperative period was prevented. Healing was achieved without requiring grafts because of the minimal damage to healthy tissues.

Inappropriate burn dressings, such as shoe polish, alleviates the pain by cutting off the contact with air at first. However, these dressings overshadow the depth and extent of the burn and this situation makes next interventions difficult for patients and surgeons. The removal of the agents used in conventional treatments cause pain - debridement procedures can be performed under general anesthesia due to this pain. This situation extends the duration of hospital stay and increases health expenditures per patient. Healthy tissues are destroyed during the removal procedure of these materials from burn wounds and this situation raises the need for unnecessary grafting procedures.

In conclusion, emergency interventions with shoe polish and so colorful and sticky substances cause serious medical issues. These substances can be removed without damage to healthy tissue by using Versajet system. The use of olive oil or other oily substances on the wound before the procedure facilitates the onset of the paint.

Conflict of interest statement

The authors have no conflicts of interest to declare.

References

1. Hudspith J, Rayatt S. First aid and treatment of minor burns. *Br Med J* 2004;328:1487-9.
2. Shrivastava P, Goel A. Pre-hospital care in burn injury. *Indian J Plast Surg* 2010;43:s15-22.
3. Cuttle L, Pearn J, McMillan JR, Kimble RM. A review of first aid treatments for burn injuries. *Burns* 2009;35:768-75.
4. Johnson D, Coleman DJ. Ink used as first aid treatment of a scald. *Burns* 2000;26:507-8.
5. Tse T, Poon CH, Tse KH, Tsui TK, Ayyappan T, Burd A. Paediatric burn prevention: an epidemiological approach. *Burns* 2006;32:229-34.
6. Rea S, Wood F. Minor burn injuries in adults presenting to the regional burns unit in Western Australia: a prospective descriptive study. *Burns* 2005;31:1035-40.
7. Rawlins JM, Khan AA, Shenton AF, Sharpe DT. Epidemiology and outcome analysis of 208 children with burns attending an emergency department. *Pediatr Emerg Care* 2007;23:289-93.
8. Chipp E, Walton J, Gorman DF, Moiemmen NS. A 1 year study of burn injuries in a British Emergency Department. *Burns* 2008;34:516-20.
9. Forjuoh SN, Guyer B, Smith GS. Childhood burns in Ghana: an epidemiological characteristics and home-based treatment. *Burns* 1995;21:24-8.
10. Seoighe DM, Baker JF, Conroy F. Licking as an out-of-hospital burns treatment- An isolated cultural phenomenon? *Burns* 2011;37:348-50.
11. Pinnegar MD, Pinnegar 3rd FC. History of burn care. A survey of important changes in the topical treatment of thermal injuries. *Burns Incl Therm Inj* 1986;12:508-17.
12. Martin JMH. Ambulance lectures, 1st ed., J. & A. Churchill, London, 1886.
13. Basaran K, Bicer A, Beskardes Y, Ermis I. Third-degree burn or a fried egg? *Burns* 2008;34:428-9.
14. Shah SR, Altaf A, Maqsood N. Butter for burns or for bread? A dilemma. *Burns* 2014;40:777.
15. Gravante G, Delogu D, Esposito G, Montone A. Versajet hydrosurgery versus classic escharectomy for burn debridement: a prospective randomized trial. *J Burn Care Res* 2007;28:720-4.
16. Klein MB, Hunter S, Heimbach DM, Engrav LH, Honari S, Gallery E, et al. The Versajet water dissector: A new tool for tangential excision. *J Burn Care Rehabil* 2005;26:483-7.
17. Cole JK, Engrav LH, Heimbach DM, Gibran NS, Costa BA, Nakamura DY, et al. Early excision and grafting of face and neck burns in patients over 20 years. *Plast Reconstr Surg* 2002;109:1266-73.
18. Turegun M, Ozturk S, Selmanpakoglu N. Sunflower oil in the treatment of hot tar burns. *Burns* 1997;23:442-5.