1. Introduction

Moist exposed burn ointment (MEBO) is a fairly recent addition to the English burn literature for the local treatment of the burn wound. MEBO espouses the concept of wound healing in a moist environment by avoiding desiccation of the fragile burned areas. Though MEBO is as effective as conventional management, it is not the panacea for all burn wounds [1]. While using MEBO in the treatment of patients with burn wounds we discovered that it is also effective in the removal of bitumen from the skin of patients with hot bitumen burns. Of the five cases that we have treated, we present two to illustrate the use of MEBO in the management of hot bitumen burns.

2. Case reports

2.1. Patient 1

A 30-year-old gentleman, roadpaver by profession, was admitted to our hospital with accidental contact burns of both hands with hot bitumen (Fig. 1). While waiting for butter from our hospital kitchen we applied moist exposed burn ointment (MEBO; Julphar Gulf Pharmaceutical Industries, UAE) that was available in our dressing room and discovered that the bitumen could be removed by application of MEBO ointment for a few minutes and gently wiping away with a gauze piece. While most of the tar was removed in an hour by this method, four hourly closed dressings with MEBO resulted in complete removal of the remnants within 24 h and the burn areas began to show good healing subsequently (Fig. 2). Complete healing occurred by the 15th post-burn day and thereafter the patient had a full functional recovery following physiotherapy.

2.2. Patient 2

A 24-year-old gentleman was admitted with accidental contact burns of both hands with hot bitumen. Application of MEBO ointment resulted in almost complete removal of the tar in 12 h. The hands were dressed four hourly with MEBO and a second degree mixed burn which resulted from the hot bitumen, healed within 18 days.

3. Discussion

Bitumen is a general term describing petroleum-derived substances that includes true petroleum, mineral tars and asphalt [2]. Hot bitumen, which is an essential part of the roadpavers and roofers profession, is a potential source of contact burn, with its removal often posing a messy problem. At our center, butter is commonly used for removal though other methods have been described, viz liquid paraffin, mayonnaise, Neosporin cream and ointment, polyoxyethylene sorbitan, petrolatum, De-Solv-It, sunflower oil and NISA baby oil [2–4]. Removal with organic solvents is not advocated as they are less effective and can cause skin irritation besides toxicity from absorption [2]. We accidentally discovered MEBO as a new mode of removal while treating a patient with hot bitumen burns and have subsequently used it in five patients with good results. MEBO has been found to ease the management of face and neck burns and facilitate early institution of occupational therapy in hand burns [1]. MEBO is believed to contain a number of other substances besides sesame oil as its base and hence it is difficult to postulate the exact mechanism as to how it helps in the removal of bitumen, though we suspect its action to be similar to that of butter. While petrolatum-based ointments dissolve the tar, butter and polyoxyethylene sorbitane act by reducing the surface tension and causing emulsification [2]. This is yet another mode of bitumen removal, albeit an expensive one, when compared to the easily available and inexpensive kitchen butter: the advantage being that the...
burn wounds can be dressed with MEBO ointment, further facilitating the removal of any tar remnants that may persist following initial attempts at removal while concurrently treating the burn wound. It should be noted that in all contact burns, where the contact material sticks to the skin surface, the burn areas have to be well irrigated by cold water as first aid to dissipate the retained heat and reduce the intensity of the burn. Further, once the bitumen has been completely removed from the skin surface, deep dermal burns over functional areas may be better managed with early excision and skin grafting as we did in one of our cases, to avoid the problems of hypertrophic scarring and functional disability. While a 100 g of MEBO ointment costs US$ 50, the same quantity of butter, mayonnaise, petrolatum or liquid paraffin is available for less than half a dollar. As large quantities of MEBO would be required in the removal of bitumen in patients with extensive burn areas, costs play an important role in the choice of the agent used. Further, since butter is very effective in the removal of bitumen, in addition to being inexpensive and easily available, in the presence of large burn areas, it will be prudent to first use butter to remove most of the bitumen from the skin surface and subsequently dress the wound with MEBO as this will aid in the removal of the remnants of bitumen that may be difficult to remove, while concurrently treating the burn wound. For small burn areas, MEBO is a good alternative as these burns can be easily managed on an outpatient basis. As with all occupational hazards, it is important to stress that the use
of specified protective overalls, eyewear, gloves, shoes and safety equipment along with the practice of safe protocols will help to prevent accidental exposure in the first place.

References


