
| RESEARCH ARTICLE

Burns on the Pilgrimage: What do you Need to Know?

MOUJAHID Asmaa¹ ✉ ACHBOUK Abdelhafid², RIBAG Yassamina³ and EL KHATIB Karim⁴

¹²³⁴*Department of Plastic, Reconstructive and Burn Surgery, Mohamed V Military Training Hospital, Faculty of Medicine and Pharmacy, Mohamed V University, Rabat – Morocco*

Corresponding Author: MOUJAHID Asmaa, **E-mail:** asmaamouj@gmail.com

| ABSTRACT

Skin burns, which are common and have a variety of causes, depend on the initial treatment and the depth of the lesions for their evolution. Burns occurring during the pilgrimage require special attention because of the scale of the event and the logistical challenges involved. They constitute a distinct situation requiring specific management. In this context, disasters involving burns highlight the importance of appropriate health responses. The principles of triage, first aid, transport and bed regulation are universal in burns management plans. The key role of the plastic surgeon is to guide patients towards appropriate treatment, depending on the size of the burns and any associated traumatic injuries.

| KEYWORDS

Burns, pilgrimage, care, plastic surgery.

| ARTICLE INFORMATION

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1. Introduction

Skin burns are a frequent occurrence, with a variety of causes and circumstances, and their outcome largely depends on the initial treatment and the depth of the lesions. Among the different types of burns, those occurring in the context of a pilgrimage deserve particular attention. Because of the scale of the event, with large numbers of pilgrims and the associated logistical challenges, these burns can be considered as a separate entity requiring specific management.

2. Methodology

This is a descriptive study carried out during the 2024 pilgrimage, within the Moroccan military convoy, between May and July 2024.

3. Results

We gathered on forty pilgrims suffered burns of varying etiologies and severity (Table 1).

The mean age was 50.5 years, with extremes ranging from 25 to 93 years. The sex ratio M/F was 3/1.

The main etiologies were:

- First-degree thermal sunburns in 15 patients, located on the back,
- Thermal burns due to contact with the mottled ground on the plantar region in 10 patients; these 2 types of burn were mainly found in men.
- Five patients presented thermal burns by contact in the gluteal region and 3 others in the legs, following syncope,
- Rare domestic accidents were observed: thermal burns from hot liquids to the breasts in two patients and to the legs in 5 patients.

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Concerning the degree of burns:

- 80% were 1st and 2nd degree superficial burns
- 20% of the burns were deep: 6 cases had 3rd degree burns

Depth of burns	Location of burns	Number of cases
1st degree / sunburn	Back / Posterior cervical	15
2nd degree superficial	Soles of feet	10
	Breasts	2
2nd degree deep	Gluteal region	2
	Legs	5
3rd degree	Gluteal region	3
	Legs	3

Table 1: Breakdown of burns by degree and location

Most superficial burns were treated with silver sulphadiazine and petroleum jelly; necrotic burns required chemical detersion with a pro-inflammatory dressing. Some patients were candidates for excisional grafts, which could not be performed given the context of the pilgrimage.

All patients underwent frequent check-ups and close monitoring in order to adapt the management according to the context. A few rare cases were lost to follow-up, and two patients benefited from additional surgical management on their return to Morocco.

We illustrate some cases with the following images (**Fig. 1-4**).



Figure 1: Deep second-degree burn of the anteromedial aspect of the left leg by hot liquid - before and after local treatment with silver sulphadiazine



Figure 2: Superficial second-degree burn of the right foot - before and after rupture of the phlyctenes



Figure 3: Deep burn of the gluteal region with necrotic plaque - before and after local treatment with vaseline in preparation for necrosectomy



Figure 4: Deep burns on the soles of the feet - after rupture of the phlyctenes

4. Discussion

Whether following a fire, a natural disaster or an industrial accident, the management of a massive influx of burn victims is a crisis situation, requiring carefully prepared care plans in advance. A similar situation arises every year during the pilgrimage, when, in addition to managing the various pathologies encountered, it is imperative to anticipate and manage the burns that may occur during this particular period [1].

International burns societies have developed management plans to cope with a massive influx of burn victims. These “disaster plans” have been adapted to meet the specific needs of each country, while optimising the use of centres specialising in the treatment of burns [2,3].

During the pilgrimage, medical teams are confronted with a wide diversity of nationalities and ethnicities, while at the same time having to comply with the health laws of the host country. The main challenges to ensuring optimal care include language barriers, available resources, the length of follow-up and coordination with hospital structures.

The most frequently observed burns are thermal burns, ranging from superficial second-degree to third-degree. These injuries occur mainly in two contexts: domestic accidents, often linked to the preparation of meals and drinks, particularly in confined spaces where the use of kettles and ovens presents risks, and during the pilgrimage rite. The latter context is particularly marked by more serious burns, such as plantar lesions, which mainly affect men as a result of walking barefoot on marble surfaces that burn under the effect of high temperatures. There are also deep contact burns, often linked to loss of consciousness, resulting from prolonged contact with hot surfaces. In rare cases, superficial sunburns may occur, due to extreme weather conditions.

The role of the plastic surgeon in the management of burns is essential and multidimensional, particularly in serious or complex cases, and in specific contexts such as pilgrimage periods. His role includes triaging burn patients by assessing the depth and

extent of the burns, selecting appropriate dressings and deciding which surgical procedures are necessary, as well as deciding whether the patient should be treated as an outpatient or in hospital. Short-term follow-up and multidisciplinary coordination, aimed at treating the patient as a whole, reinforce the importance of their expertise. This expertise plays a key role not only in improving the pilgrim's stay, but also in optimising his or her quality of life as a burns patient, whether in functional, aesthetic or psychological terms [4-7].

Disasters involving large numbers of burn victims can occur at any time following a fire, an industrial explosion or a transport accident. These events have prompted several international burns societies to publish recommendations on preparing for a mass influx of burn victims. The aim is to classify victims according to the severity of their injuries, to assign each patient a bed suited to his or her therapeutic needs, and to put in place a disaster management plan specific to burns, taking into account the country's hospital capacity [8-13].

5. Conclusion

Disasters involving burns highlight the need for appropriate health responses. In the context of the pilgrimage, a rite that should take place without major incidents, it becomes crucial to reinforce these recommendations. The main principles of triage, first aid, transport and bed regulation are common to all burn management plans established throughout the world. The main objective, and the essential role of the plastic surgeon, is to ensure that each patient is directed to an appropriate hospital bed, depending on the size of the burns and the associated traumatic injuries.

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