

Firewalk – Festival-related Burns: An Analytical Study

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Abstract

Introduction: This paper discusses a specialized type of burns that occur during a ritual in South India, where devotees walk on hot coal or embers to fulfill a vow.

Materials and Methods: Over a study period of 3 years, at a major burn center in South India, all patients getting admitted and treated with this type of firewalk burns, were analyzed.

Results: The various aspects of this type of burn have been studied, and the peculiar and salient features that differentiate these type of burns from other flame burns have been analyzed.

Conclusion: The parts of the body that are particularly affected by these burns and the nature of the injury has been studied.

Key words: Burns, Burns during rituals, Festival burns, Firewalk, Special burns

INTRODUCTION

Festivals are times of celebration and many customs are followed. These customs when followed for many generations it becomes a part of the culture. Being rituals, they are often repeated. Since the discovery of fire has heralded human civilization, it is only natural that fire is commonly associated with many festivals worldwide. Examples of such festivals are burning the Clocks, Brighton, England; Afrikaburn, Tankwa Karoo National Park, South Africa; Beltane Fire Festival, Edinburgh, Scotland; Las Fallas, Valencia, Spain; Rouketopolemos, Vrontados, Greece and Burning Man, Black Rock City, Nevada, the United States. There are even self-immolation rituals like some Buddhist customs.¹ In addition, when there is fire, there are bound to be mishaps.

One such common festival in South India and places like Singapore,² is the Firewalk or walking on hot be hot charcoal

or wood (Figure 1). This is celebrated usually in the Tamil month of “aadi and aippasi” which falls between middle of July and middle of August and between mid-October and mid-November. Fire is considered sacred and people who practice this ritual, are stubborn to do it repeatedly, year after year, for fulfilling the vow, or to achieve the “runner’s high”³ on completion of the daunting task. This religious event is popular in many Hindu Temples and so is the accidental burn that occurs in these devotees. Burns unit in Government Kilpauk Medical College Hospital is the largest burn unit in South India and hence receives many patients with such injuries. A study relating to the epidemiology of the Firewalk burn, and the pattern of injury following such a burn, has been done, for a period of 3 years from September 2014 to August 2017.

Firewalk: A temple pit with red hot charcoal about 6 feet in length with 4 feet width is made the night before the actual event, and is kept red-hot⁴ throughout the ritual. Devotees pour sacred water on themselves and smear turmeric and kumkum (Red powder on the forehead) and neem leaf paste on themselves and with bare feet, try to run from one end to the other keeping the contact time to a minimum. They are so quick to cross and wet skin adds to the safety of their feet. It is only when they lose their balance and fall down, the contact areas get burnt. People who generally walk bare feet,

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as is common in the villages of India, has a thicker layer of sole, which helps them to accomplish this feat successfully. People who do not walk bare feet regularly do not have thick cornified sole, and are more prone to get contact burns of the feet while performing this task of “firewalking”. Many times the problem of burns is when they lose balance and fall in the pit or due to jostling. At certain times, bystanders push and people fall into the hot pit. Children who are carried by adults may fall and get burnt.

MATERIALS AND METHODS

The study period has been 3 years, from September 2014 to August 2017, at the Burns unit in Government Kilpauk Medical College Hospital. All patients getting admitted with a history of burn injuries sustained while firewalking were included in the study.

The age, sex parameters, and the percentage of burn area, outcome of treatment were analyzed.

RESULTS

There were a total of 31 patients admitted during the study period with burns sustained due to firewalk.

Between September 2014 and August 2015 there were 7 admissions.

From September 2015 to August 2016, we received 7 patients. 17 patients have been admitted from September 2016 to August 2017.

The percentage of body surface area burnt (Figure 2) was from 2% to 58%. The age group (Figure 3) of the patients varied from 9 to 65 years.

Sex distribution (Figure 4) is 21 males and 14 females. An interesting observation was that female patients were aged above 45 years only.

Duration of treatment varied from 4 days to 3 weeks.

When the outcome of the treatment for these firewalk injuries was analyzed (Figure 5), it was found that mortality was due to comorbidities. 3 patients died due to comorbidities such as diabetes and deep vein thrombosis and sepsis.

DISCUSSION

There is a typical male preponderance, as the males usually make the vow to walk on the firepit. Most of the patients are middle-aged (age 30-60 years) (Figure 6).



Figure 1: The ritual of firewalking and the typical burn on the sole of the foot

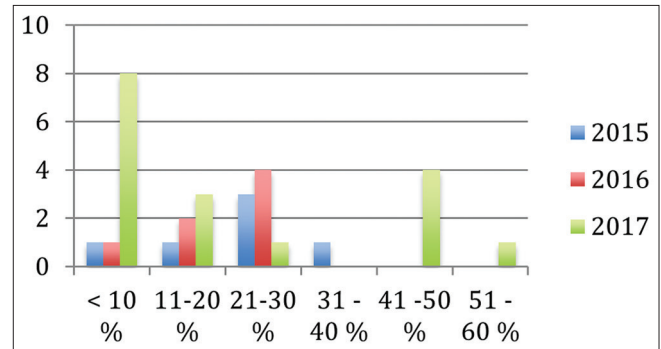


Figure 2: Percentage of body area burnt in firewalk incidents over 3 years

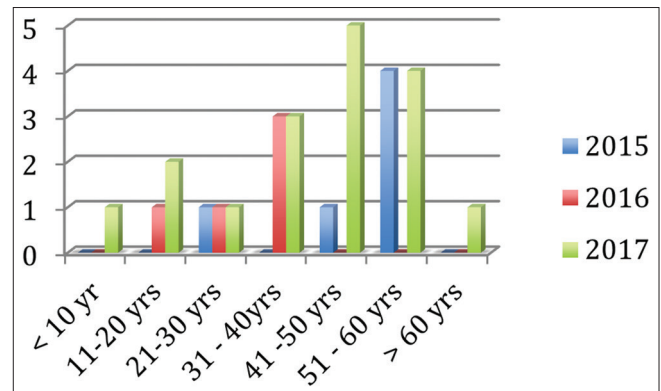


Figure 3: Age distribution of the patients who sustained firewalk burns, over the period of study

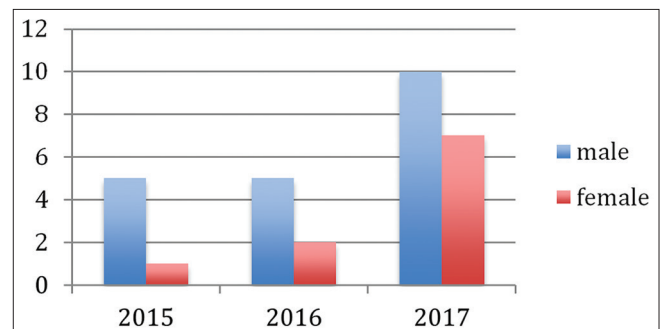


Figure 4: Sex distribution of the patients who sustained firewalk burns

Females participate in firewalk only in older age group. Some temples do not allow women in the menstruating age group to participate in this ritual of firewalking. This could

be the reason why older women are involved. Although children do not participate on their own in this ritual, their parents or grandparents hoist the children on their shoulders, either as part of the vow, or just to entertain the children. When the adults who do this falter on the firepit, they fall, and the children get burnt.⁵

Most of the patients (Figure 7) had a lesser percentage of burn (0-30%). Only the areas that come in contact with the hot coals get burnt. In people who are not used to walking bare feet, contact burns on the soles (Figure 8) of the feet are a hallmark. These burns are typically mixed degree burns, which heal with dressings alone. When the burns are sustained by fall,⁶ the typical distribution of the burn areas in such firewalk injuries are the legs, flanks, and lateral aspects of the arms (Figure 9). Rarely, the face was involved.

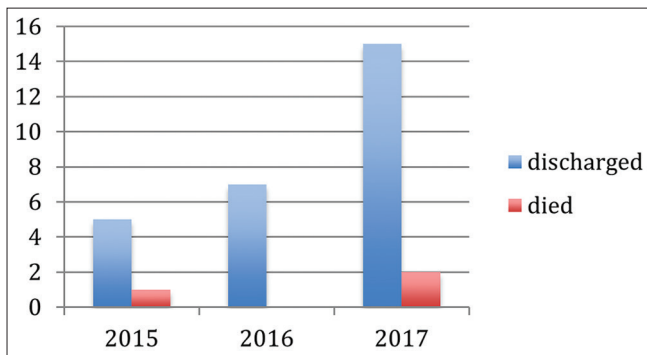


Figure 5: Outcome analysis of the patients being treated for firewalk burns

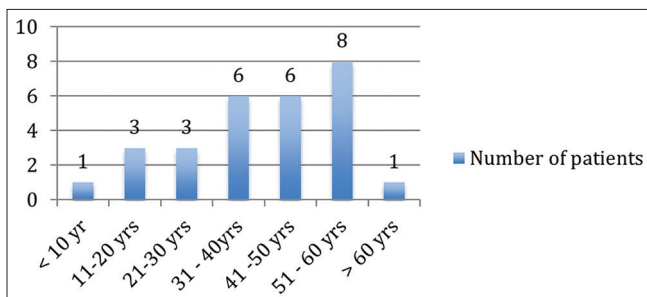


Figure 6: Overall age distribution of the patients with firewalk burns

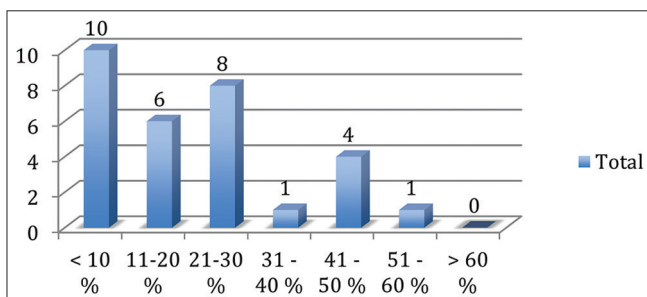


Figure 7: Overall percentage of burns in patients with firewalk injuries

The pattern of burn injury was typically stippled pattern, where the hot coals came in contact with the skin, with intervening areas of normal, uninvolved skin.

27 patients were discharged (Figure 10) after complete healing and only 3 patients expired. All the three patients were aged more than 50 years. Of the three patients who expired, two had burns of 41-50% and one patient had a burn of 58%. All three were diabetic. Although the burn was accidental comorbidities caused higher mortality.

CONCLUSION

Awareness about the hazards of such rituals must be made to the general public. This study highlights the importance of also educating the public about the importance of medical checks before undertaking dangerous religious activities.

The public has to be kept at a safe distance from the firepit so that they do not fall in it accidentally. Jostling at such festivities has to be prevented by proper security personnel.



Figure 8: Contact burns on the soles of the feet



Figure 9: Typical pattern of burns sustained by fall in the firepit

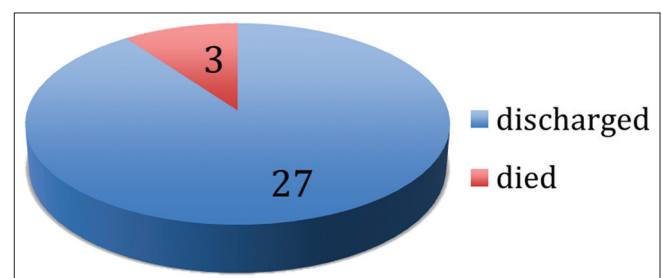


Figure 10: Overall outcome of the patients with firewalk burns

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