

Outcome of Conservative Management of Burns: Critical Review

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Abstract

Background: Management of burn continues to be a great challenge. Dressing and topical antibiotics reduce mortality by fifty percent and it is thought to reduce infection rate and retains moisture. **Objectives:** To assess long term complications of burns in patients treated in general surgical units. **Patient and methods:** Su CW and Alizadeh K classification was used in hypertrophic scars assessment. The state of depression was assessed using Beck classification of depression for 112 patients treated at Khartoum Teaching Hospital and Soba University Hospital between Jan1999- Feb2000

Results and discussion: 42(37.5%) had hypertrophic scars. Color changes were seen in 17 patients. Chronic ulcers were seen in seven patients, in three of them it was Marjolin's ulcer. 20(28.6%) had mild and three (4.3%) had severe depression. **Conclusion:** Conservative management of burns is associated with more wound complications.



Introduction

Burn injuries result in destruction of some or all layers of the skin^{1, 2}. Children are more vulnerable³. Scarring and pigment changes in burns depend on the thickness affected. However, it is reduced by skin grafting^{2, 3}. Damaged tissues separate in the active cellular process of desloughing that takes three weeks. This may become a nidus for infection that adds to local complications^{4, 5}. Gross oedema of limbs causes venous obstruction which is particularly likely in circumferential burn⁴. The accumulation of fluids in the hand leads to claw posture that ends in contractures.

The favorable results in burns in the last decades were attributed mainly to small burnt areas, short delay between injury and admission, early surgery and remarkably good facilities^{4, 6-8}.

Because of its disastrous cosmetic consequences, facial burns must be managed in aesthetic units. Hand burns should be aggressively excised and grafted. Palms rarely need grafting

Reconstructive surgery offers the only answer for treatment of contractures. Tissue expansion, free tissue transfer, prosthetic and osteo-integrated prosthesis is important for some patients^{2, 5-9}.

Objectives

This study was designed to assess long term complications of burns in patients who were treated conservatively in general surgical units.

Patients and methods

This is a retrospective study of patients suffering of burn injury managed in general surgical units at Soba University Hospital and Khartoum Teaching Hospital in the period Jan 1999 to Feb 2000.

Su CW and Alizadeh K classification was used in hypertrophic scars assessment^{1, 10, 11}. The state of depression was assessed using Beck classification of depression¹².

Results

All patients with burns seen during the period of the study were enrolled in this study. They were 112 patients with male: female ratio of 1: 1.3. Children younger than 5 years constituted 22.3% (table 1). The cause of thermal injury was flames in 47(42%) and scalds in 42(35.5%) (children had constituted 29(69%) of victims of scalds). Electrical burn was seen in 11(9.8%) and contact burn in 12(10.7%) patients.

Table 1: Age distribution of patients

Age in years	Frequency
<5	25(22.3%)
5-10	17(15.2%)
11-20	15(13.4%)
21-40	44(39.3%)
>40	11(9.8%)

Burn surface area was $\leq 30\%$ in 49(43.7%), 31-50% in 59(52.6%) and $\geq 50\%$ in four patients. 23% of patients were not admitted to hospital. All patients received systemic antibiotics. 46.5% were managed as an in-patient for more than 12 weeks. 47% of the patients had open method of dressing while 53% had closed dressing

All patients were treated conservatively and none of them received physiotherapy. 84(75%) patients had contractures (Fig1). Contractures involved the axillae in 14(16.7%), elbow in 18(21.4%), wrist in 17(20.2%) patients (Table 2). 41.6% had contractures in more than one site. This was true in patients with more than 50% burn and in all children below the age of five years.

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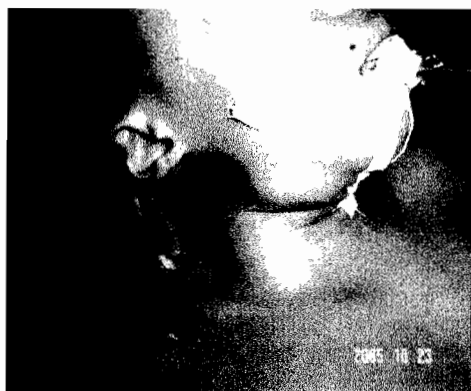


Fig 1: Postburn Neck Contractur

30 had moderate depression 21(70%) of the later were females. Three (4.3%) female patients had severe depression.

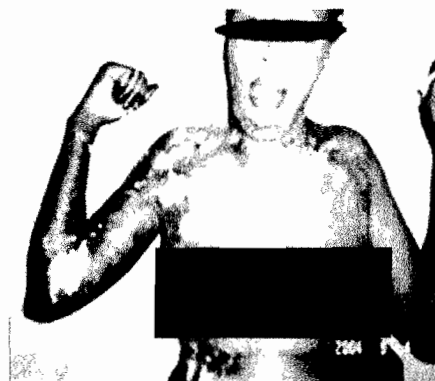


Fig 3: Pigmentary changes, contracture of anterior axillary wall and hypertrophic scars

Table 2: Sites of contracture among the study population

Site	Frequency
Axilla	14(16.7%)
Elbow	18(21.4%)
Wrist	17(20.2%)
Small hand joints	26(19%)
Palm	05(06%)
Groin	03(3.6%)
Knee	11(13.1%)
Ankle	01(1.2%)
Trunk	11(13.1%)
Head and neck	16(19%)
Face	07(8.6%)
Total	84(100%)

Fourty-two (37.5%) patients had hypertrophic scars (Fig 2). Color changes were seen in 17 patients (Fig 3). Chronic ulcers were seen in seven patients (Fig 4), in three of them it was Marjolin ulcer.



Fig 4: Leg ulcer in burn scar

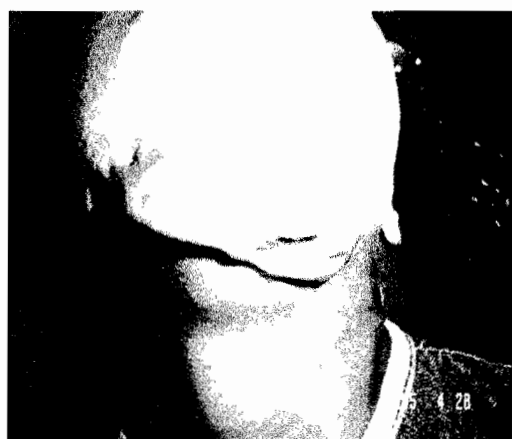


Fig 2: Hypertrophic Scars

Psychological assessment was conducted in 70 patients after exclusion of children (table 3). Seven (24.2%) patients showed no evidence of depression but 20 (28.6%) had mild depression,

Table 3: Depression among the study population (adults)

State of depression	Frequency
No depression	17(24.2%)
Mild depression	20(28.5%)
Moderate depression	30(42.8%)
Severe depression	03(04.5%)

Discussion

In this study females were slightly more affected. This is similar to other reports¹. However, more children below age of ten years were affected indicating a major problem for domestic safety, probably due to illiteracy^{14, 15}.

The aetiology of burn always reflects the community habits. The cause of major burns in adults in this study contrasts reports from

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