

FOLLOW UP STUDY OVER A PERIOD OF SIX MONTHS WITH RESPECT TO REHABILITATION AND RECURRENCE AFTER BURN SURGICAL PROCEDURES.

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Abstract

The study was conducted in the Department of General Surgery, Gandhi Medical College, Bhopal over the period of one & half year. Evaluation started with History and clinical examination including range of movement of joints. Scar was scored as per Clinical Assessment Score. Range of movement was measured using goniometer.

Although most patients came for follow up and were compliant with the rehabilitation protocol, their compliance needs to be re-evaluated at every follow up and they should be encouraged to follow the advices strictly. Also they must be counseled that contracture may not be corrected to the full extent despite best of treatment and compliance with rehabilitation protocol but a good level of improvement can be achieved.

Keywords: Burn, Surgery, Rehabilitation & Recurrence.

Introduction

Burns are one of the major causes of disability-adjusted life-years (DALYs) lost in low- and middle-income countries. In India, over 10,00,000 people are moderately or severely burnt every year[1]. Though survival of the victim is of immediate concern, the long term morbidities faced by survivors are of no less concern. The disfigurement and functional disabilities have a physical, psychological, social and economic impact and may put substantial emotional and financial burden on the victim[2,3].

Healing of the burn wounds depends on the depth of burn injury. Burns involving deeper layer of dermis and beyond (2nd and 3rd degree) heal by scarring. Thus scar formation is inevitable.[4]

Material & Method

The study was conducted in the Department of General Surgery, Gandhi Medical College, Bhopal over the period of One & Half Year from Jan 2018 to July 2019, with following method:

- Evaluation started with History and clinical examination including range of movement of joints
- Scar was scored as per Clinical Assessment Score.
- Range of movement was measured using goniometer.
- Treatment modality employed surgical intervention in the form of release of contracture followed by grafting,

flap or z-plasty as deemed suitable in the case. Following surgery, all patients were applied POP slabs to maintain the limb in functional position. Later on, they were advised splints for the same and proper care of the donor and recipient site was explained.

- All patients were advised to come for follow up regularly. During follow up visits, evaluation of the following was done:
 - compliance with the rehabilitation protocol (use of splints)
 - any change in range of movement of joints
 - Range of motion (ROM) of the patient was calculated as percentage of normal ROM and the difference between normal and observed value was calculated as percentage deficit in ROM. Normal ROM was taken as follows:
 - a. Wrist joint (flexion-extension): 70°
 - b. Fingers (composite ROM of all joints) : 180°
 - c. Neck (flexion-extension): 55°
 - d. Axilla (abduction-adduction): 180°
 - e. Elbow (flexion-extension): 180°

In case of recurrence, requirement of second surgery would be recorded as outcome during follow up, and then such patients will not be followed up after second surgery as they will come under exclusion criteria.

INCLUSION CRITERIA

- Proven cases of post burn contracture coming to GMC, Bhopal OPD willing to give consent and/or assent for study
- Both males & females were included in this study
- Patients of all age groups were included

EXCLUSION CRITERIA

Patients who had been operated before for contracture release coming with re-contracture at same site were excluded.

Results

Table 1: Number of patients who came for follow up

Follow-up	Yes	No
No. of Patients	40	10
Percentage of Patients	80%	20%

Table 2: Number of patients who used splints at follow up

Splint Used	Yes	No
No. of Patients	30	10
Percentage of Patients	75%	25%

Table 3: Clinical Assessment Score at Follow up

Scar Score	9 or less	10-13	14-18	Loss to Follow up
No. of Patients	11	26	03	10
Percentage of Patients	22%	52%	6%	20%

Discussion

At the end of six month follow up period, 22% patients had a scar assessment score of 9 or less while none came in this group preoperatively. Patients with scar score 10 to 13 were 52% at follow up as compared to 54% preoperatively, while only 6% fell in group 14-18 as opposed to 46% preoperatively. 20% patients did not come for follow-up. At the end of six month follow up period, only 6% patients of the total 50 were found to have ROM between 91% to 100% ROM as compared to 74% patients achieving this in postoperative period. Out of this 6% all patients were the ones who used splint. [5,6]

36% patients had ROM between 76% to 90% as compared to 26% patients falling in this category post operatively. Out of the 36% all were the ones who used splints. While

all patients had ROM above 50% postoperatively, 38% patients entered this category at follow up with 18% using splints and 20% not using splint. Notably, all the 10 patients who did not use splint fell in this category. [7,8]

At the end of follow-up, of all the patients using splints 83% of the patients had a deficit less than 25% of ROM and the rest had 26% to 50% deficit. None had more than 50% deficit. Out of the patients who did not use splint 90% had deficit 26% to 50% of normal ROM and rest had more than 50% deficit. Notably, none of these patients could maintain a deficit less than 25%. [9]

Conclusion

Although most patients came for follow up and were compliant with the rehabilitation protocol, their compliance needs to be re-evaluated at every follow up and they should be encouraged to follow the advices strictly. Also they must be counseled that contracture may not be corrected to the full extent despite best of treatment and compliance with rehabilitation protocol but a good level of improvement can be achieved.

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