

Case Report

Management of post burn groin contracture: a case account

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ABSTRACT

Similar to burns of the face, hands, and feet, groin and perineal burn injuries result in physical as well as psychosocial scarring for the patient. It often results in loss of functionality which is usually out of proportion to the percentage of burns. Hence, these burns are classified as major burns. Direct injury to the genitalia can lead to sexual dysfunction. In such circumstances, the treatment plan should comprehensively look into even psychosocial aspects of the patient. Both functional and cosmetic appearance should be the primary concern. With scarcely available burns unit and dedicated hospitals in India to treat burns, patients often develop severe contractures without proper post burns care. Most of the burn patients end up being treated by staff without special training in burn care. A variety of surgical procedures in post burn contractures of groin and perineum have been described all aimed to achieve satisfactory functional and cosmetic outcome. However, advantages of long-term care with regular physiotherapy, use of pressure garments, and massaging with emollient creams should not be overlooked and cannot be overemphasized. We present such a case of a young female with poor post burns care which resulted in post burn contracture of the groin and perineal area and had to endure with inconveniences. Patient was treated in our department adequately.

Keywords: Post burns contracture, Groin contracture, Contracture release, Flap

INTRODUCTION

Annually about 700,000 to 800,000 hospital admissions with burns is reported in India.¹ The gravity of this problem is compounded by availability of very few hospitals with dedicated burn units. Anatomically and functionally important groin and perineum comprise only 4–6% of total body surface area (TBSA). Flame and scald burns are common causes of burns of these areas.² Child abuse is also an important cause in perineal and genital burns in India.³ However, fortunately, perineum usually escapes burn injury due to its deep location between the thighs and often burn contracture of the surrounding areas - lower abdomen, inguinal area, and the adjacent thighs that secondarily distorts the perineum. Contractures are a

common sequel of burns involving joints or flexural surfaces. Isolated burns to the genitalia and perineum are not common.

Perineal contractures pose difficulty in form of restriction of movements, urination, defecation, and interferes in sexual intercourse.⁴ It may also result in recurrent ulceration and rarely result in Marjolin's ulcer. Various other complications such as intestinal obstruction, anal stenosis with megarectum, and gluteal pouching with total effacement of the gluteal folds and hooding of the rectum is also been noted in medical literature.⁵

Burns management, both in its acute form and chronic sequelae, is a great challenge even to the specialized

burns team. While managing contractures, both functional and cosmetic aspects are of concern. Management should be aimed to provide a life devoid of disability and requires understanding the nuances of contracture, adequate planning, allaying patient fears and as well as understanding and cooperation on part of the patient and patient's family members. Various surgical procedures have been used in treatment of contractures ranging from simple release and grafting to a number of flap procedures.

As seen in treatment of any burn's patient, along with the physical pain patient has to deal with depression of unsightliness and in addition fear of sexual dysfunction. Also, the patient has to undergo repetitive incursion of most personal anatomic region which is likely to corrode their sense of reticence and self-esteem.

CASE REPORT

A 20-year-old female, who sustained scald burns 2 years earlier, presented with complaints of contracture of the perineo-groin region. Due to this, patient had difficulty in walking, squatting and other movements and was unable to perform essential chores. Act of micturition, defecation and also menses were troublesome with difficulty in maintaining hygiene of the area with occasional unintentional soiling of clothes. Patient also desired to get married and was anxious about sexual activity. On examination, contracture of the groin region was noted, with the band limiting the spread of legs ie, abduction was $<20^\circ$ bilaterally. Areas of recurrent ulcers and healing with severe scarring were present. The introitus and anal verge were devoid of contracture (Figure 1).

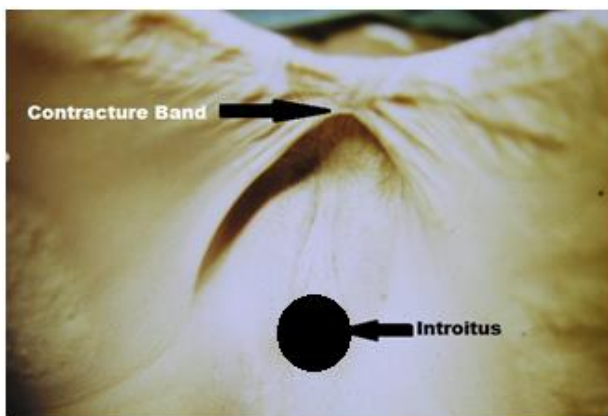


Figure 1: Surgical management.

Surgery was proposed and planned for a 7 flap plasty, with anticipation for skin grafting (Figure 2). Patient was thoroughly investigated and prepped for surgery. Under general anesthesia, 7 flap repair was executed with no need for skin grafting. Dressing was done with splinting using plaster of Paris. Post operatively splinting was continued and sutures were removed after 14 days. After

wound healing, physiotherapy was initiated and continued for 6 months along with massaging using emollients. The final outcome was satisfactory (Figure 3).

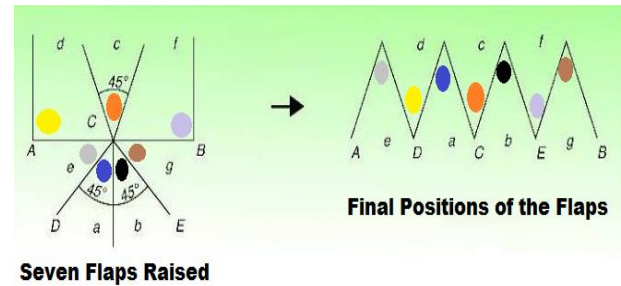


Figure 2: Design of 7 flap plasty and final resting positions of the flaps.

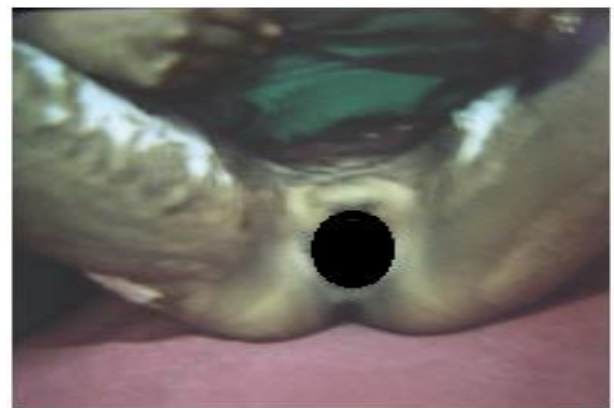


Figure 3: Final outcome of treatment at the end of 3 months.

DISCUSSION

Burns of the groin and perineum alone are infrequent and commonly occur as part of greater body surface injuries. Due to distinctive location of genitals in females, they often escape burn injuries even in larger body surface burns. Males though have a relative higher chance of genital injuries in burns escape contractures due to laxity and redundancy of penile and scrotal skin which compensates for skin loss and subsequent contracture too.

Groin and perineal burn contractures are seldom diagnosed early owing to the patient's disregard, unawareness, and mostly due to coyness in exhibiting their private area to the treating physician. Delay can postpone until puberty when the problem confounds and sometimes even later in females as in our case up to marriage. Onus of the problem is on the primary treating physician as well, in the immediate post burns period failing to provide proper advice. Inconsequential burn contractures in these areas, which can be found unpleasant if present on exposed areas especially face and hands, are commonly ignored by the patients. However, many a times can cause a functional disability if disregarded.

Contracture bands in the groin across the symphysis pubis bind the thighs together. This impairs movement, especially abduction and causes difficulty in walking, sitting, squatting, micturition, defecation, and also sexual activity. In India, squatting is necessary posture for micturition and defecation and is often debilitating especially to rural patients. Another predicament is recurrent ulcerations as perineal and groin burn contractures are not in steady location. Constant breakdown and subsequent healing may occasionally lead to premalignant Marjolin's ulcer.⁶

It is necessary to relieve functional disability rather than providing cosmetic relief so that patients can be able to perform essential chores. Hence for resurfacing, it is desirable to bestow flap cover, especially recruited from the burn scar area itself, though skin grafting is an effective tool in the armamentarium.

Enduring measures have to be instituted postoperatively to prevent consequent contraction. Regular physiotherapy, massaging with emollient creams and use of pressure garments, use though inconvenient, should be followed religiously to prevent recurrence of the contracture

Burn contractures of the perineum can be treated appropriately by contracture release and coverage of defects with skin grafts, Z-plasties, local flaps such as 7 flap plasty used in our case, distant flaps and lastly free flaps for huge defects. Excision of the burn scar is not advisable and the same can be cleverly used accordingly in reconstruction. Satisfactory functional results can be often obtained with local flaps with shorter operative and recovery time and less donor site morbidity.

While reconstructing in this area, proximity of the critical orifices of the vagina, urethra and anus should be borne in mind. And also release of contractures inadvertently may result in exposure of crucial structures such as femoral vessels and may necessitate use of flap cover. Sartorius and gracilis muscle flaps can be used for cover in such a juncture. The tensor fascia lata is useful in groin reconstruction and also rectus musculocutaneous flap based on its inferior pedicle. Free tissue transfer with anastomosis around femoral vessels is also an option to reckon with.

Also, pertaining to loss of libido or orgasmic dysfunction, it has been noted that 25% of all adult burn patients experience it.⁷ Growth is an important variable in the development of perineal contractures in children with burns; thus, these patients should be followed up closely during rapid-growth periods.

CONCLUSION

To conclude, recuperation from perineal burns, both in acute period and chronic phase in case contracture occurs, is a difficult challenge physically and mentally. The agony that a burn patient endures during treatment is evident even to an onlooker. And to finish, though uncomfortable yet to be stressed as in any medical literature, is that management of burn patients in a developing country is different from that in the developed world. This is due to lack of education, awareness, ignorance, fund shortfall, dedicated burns unit's deficit, and undertrained staff. Making aware to people for early expert medical consultation and obligation on part of the patient to follow advice thereafter and proper rehabilitation can prevent these undesired post-burn sequelae.

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