Pressure ulcers are common complications for long standing hospitalized bedridden patients those are not able to move or move very little. In fact, the lesion forms in a skin and muscle region which undergoes a constant pressure between an underlying bone protrusion and a support structure such as a bed or a wheelchair. In this study authors have focus epidemiological parameters and on various type of surgical treatment used for pressure, treatment outcome at one year and complication. This study was conducted at the Government Spine Institute at Civil Hospital Ahmedabad from October 2012 to September 2014. An analysis of patient care records of indoor patients of post traumatic spinal cord injury with pressure sore surgery was performed.

The collected data analyzed, conclusions drawn and compared with relevant literature. With suitable flap selection and the appropriate short- and long-term sequence of flap use, reconstruction can reliably be performed in a single stage with relatively short-term hospitalization.

**Key Words:** Pressure sore; Flap repair; Spinal injury

### RESULTS

After evaluating 96 patients (117 sores) within the period from October 2012 to September 2014 through a prospective study, we concluded that: from the epidemiological point of view: age; ranging from 11 to 68 years old, with an average of 32.20 years old (young adults), Maximum patients (59.37%) were from the age group 21-40 years as these are most active sections of the society. Males were predominantly affected as compared to females (54.1) as in the current society males are more involved in outdoor activity and high-risk situations. Patients from rural areas (2.1:1) seem to be affected more as compared to those from urban areas. While considering the fact that a higher percentage of population lives in the rural areas along with fewer specialized care institutions in the villages, the above result is open to further research. Risk factors for development of sores: 100% spinal cord injuries, predominance of paraplegics (54.6%), with the majority being due to road traffic accidents (RTA) 70.83%, most of the sores with Class IV lesions 88.50% (Classification according to the National Center of Spinal Cord Injuries Data), largest size sore in Sacral sores in their largest diameter (average 6.8 cm). The site-specific involvement is 40.33% sacral sores, 28.57% trochanteric sores, 33.52% ischial sores, including these sites of sore 10.41% (average 6.8 cm). The site-specific involvement is 40.33% sacral sores, 28.57% trochanteric sores, 33.52% ischial sores, including these sites of sore 10.41% were having combined site involvement and the average number of sores/patient: 1.22 in this study.

While considering the treatment: Class III and IV 89.58% patient were included in study, all these patients underwent surgical treatment. Mainly the surgical procedures performed by the use of myocutaneous flaps (%). Treatment success rates of Sacral (81.25%), trochanteric sores (76.47%) and ischial sores (71.42%). In this study the Sores recurrence rate was 21.00%, Out of these 4.2% recurrence was at the same site while 16.8% was at newer sites. The post-operative complications: includes 36.00% trochanteric sores, 23.52% ischial sores, including these sites of sore 10.41% were having combined site involvement and the average number of sores/patient: 1.22 in this study.

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### DISCUSSION

Paraplegic patients are chronic bed ridden patients totally depended on relative for their activities of daily routine and general care. Special care includes feeding, frequent change in posture; personal hygiene as well as mental and emotional wellbeing needs to be addressed. Bed sores are a result of negligence and further lead to soiling of clothes, infection, osteomyelitis of underlying bone, necrosis of skin, subcutaneous tissue and muscle, loss of protein rich fluid from the body and so on. With early identification of complications. All patients are followed up to 1 year and complications if any, noted and treated, counseling about life style modification, physiotherapy and nutritional support advised. The collected data analyzed, conclusions drawn and compared with relevant literature.

**Materials and Methods**

This study was conducted at the Government Spine Institute at Civil Hospital Ahmedabad from October 2012 to September 2014. An analysis of patient care records of indoor patients of post traumatic spinal cord injury with pressure sore surgery was performed. All the demographic profile data collected for each patient. Only those patients who were medically fit and having hemoglobin more than 10 g/dl and serum albumin more than 3 g/dl were considered for flap coverage. The distribution of patient was done according to the type of treatment, surgical procedure, type of flap and complications. All patients are followed up to 1 year and complications if any, noted and treated, counseling about life style modification, physiotherapy and nutritional support advised. The collected data analyzed, conclusions drawn and compared with relevant literature.
In evaluation of most pressure sores, the wound is frequently underestimated before surgical debridement. Failure to debride the pressure sore site adequately is a significant factor in the overall morbidity that follows attempted flap reconstruction. Injection of a mixture of methylene blue and hydrogen peroxide directly into the wound cavity is helpful in defining the wound dimensions and determining the extent of debridement necessary. The peroxide aids in mechanical cleaning of the wound. Rarely, two different flaps are required to fill a defect. For all insensate patients (e.g. paraplegics, quadriplegics), the bone prominence at the base of the wound is a significant source of pressure sore recurrence; therefore, partial ostectomy is considered in all ischial, sacral, and trochanteric sores. A total unilateral ischietomy, in an ischial pressure sore, is contraindicated because of the subsequent shift in maximum pressure to the contralateral ischial tuberosity from such an ischial resection (resulting in a high incidence of contralateral ischial pressure sores) (15). Furthermore, bilateral total ischietomies place the patient flat on the perineum, which may give rise to urethral fistulas and diffuse perineal ulcerations. In longstanding pressure sores, osteomyelitis may be present within the bone at the base of the wound. Therefore, care must be taken to debride all nonviable bone tissue before the reconstruction. Bone biopsy is indicated at the time of debridement if osteomyelitis is suspected to aid in diagnosis and to direct systemic antibiotic therapy. Bone viability is determined most accurately by active bleeding at the bone surface during operative debridement.

CONCLUSION

With suitable flap selection and the appropriate short- and long-term sequence of flap use, reconstruction can reliably be performed in a single stage with relatively short-term hospitalization. Furthermore, improved success rates occur when these principles are used. In caring for patients with pressure sores, flap procedures should be planned carefully, and social resources must be provided to reduce the risk of a negative outcome.

CONFLICT OF INTEREST

Authors have no conflict of interest.

REFERENCES


