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Bilateral Hip Disarticulation: A Case Report

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Abstract: *Amputation affects the personal and socioeconomic lifestyle altogether, and the aftermath of the same can be devastating. A young boy who met with a railway accident and suffered a high bilateral above the knee traumatic amputation. The patient was immediately managed with stabilization and then a revision amputation by performing Guillotine hip disarticulation bilaterally followed by a delayed skin grafting. Patient responded well and progressed to mobilize himself well enough with crutches and support.*

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I. Introduction

Amputation of the limbs has been reported to be a stressful event for any individual. Among them, traumatic amputations have always contributed to a larger proportion of the amputees. Increasing number of RTA, unmanned railway crossings, failure to use the preventive and protective measures coupled with poorly abiding to the law and order, have led to an increase in the number of such traumatic amputations in India, amongst which, railway accidents are commonly associated with bilateral traumatic amputation. A timely reporting of such patients to a well equipped trauma centre with an integrated modern rehabilitation and prosthetic unit can improve the surgical outcome and also hugely enhance the socioeconomic quality of life of the amputee.

Hip disarticulation is the amputation of the lower limb through the hip joint; it continues to be one of the most radical procedures in orthopedic surgery.[1,2] This surgery accounts only for approximately 0.5% of the lower limb amputations.1 The most frequent indications are highly invasive tumors of the musculoskeletal system that are unresectable with limb conservation, limb ischemia, trauma, and severe musculoskeletal infections of the pelvic region and/or groin.1

II. Case Report

A 16 year-old-male was involved in a railway accident following which the he had a total bilateral traumatic amputation of the lower limbs, high above the knees. The patient was referred to Advanced Trauma Centre, PGIMER, Chandigarh. On receiving, the patient was found to be in a severe hemorrhagic shock. All the ATLS protocols of resuscitation and management were followed. Initial hemoglobin level of the patient was remarkably as low as 3 g/dl. The patient was temporarily stabilized with adequate fluids, uncrossed packed cells and volume expanders. Once stable hemodynamically, the base excess levels and lactate levels were assessed and the patient was shifted to the emergency Operating Room.

The patient was simultaneously operated upon by two expert trauma surgical teams, with an aim to decrease the total operating time, such that the time lapse between the entry and exit of the patient from Operation Room was 70 minutes. Guillotine amputation (bilateral hip disarticulation) was performed and an adequate debridement of the devitalized tissue done. The patient was built nutritionally over the time and on post operative day 5, was posted for a repeat debridement alongside a split skin grafting procedure to cover the resulting bare tissue defect. The uptake of the graft was satisfactory. Patient was constantly counseled throughout the duration of his stay at the hospital, regarding the quality of life and the ways to cope up with the consequences of the amputation laying emphasis on rehabilitation. Patient was followed up after 1 month of split skin grafting to find a healthy amputated stump and was mobilized with the help of crutches and wheel chair.

III. Discussion

Hip disarticulation is a complex and infrequent surgery, only performed as the last option in extreme cases.[1-5] The literature on this surgery is scarce, mainly in the form of case reports and small series.5

Endean et al.[6] performed hip disarticulation over 24 years with indications including tumors, and ischemia associated with infection. The predominant types of tumors were sarcomas, more often liposarcoma, chondrosarcoma, and fibrous histiocytoma. The infection group comprised severe soft tissue infections, pressure sores, and cases of femoral osteomyelitis. Patients in the ischemic group had peripheral vascular disease, and

were previously submitted to revascularization surgeries. Most common types were infections and necrosis of the surgical wound. The mortality rate was significantly higher in urgent surgeries (33%) when compared with elective surgeries (4%).

The complications after hip disarticulation are frequent, not only due to the extent of surgery, but also because patients often present extreme situations, with multiple comorbidities and hemodynamic instability. The literature presents controversial results on mortality after hip disarticulation; the rates vary according to the indication, clinical status of the patient, and the degree of urgency of the surgery.[6–10]

Patients with a severe poly-trauma, in emergency situations and often associated with hemodynamic instability, present the worst results in terms of survival and mortality rate. The few studies that analyze functional results after hip disarticulation demonstrated that patients present poor quality of life and significant difficulties in the recovery of the gait and in the use of substitution prosthesis for the lower limb.[7–9] The energy expenditure for gait in patients undergoing hip disarticulation increases by 82%, thus the patient is often confined to a wheelchair or bedridden.8. Individual motivation, age, overall health status, and co-morbidities of the patient are considered to be crucial factors for recovery of gait.10

IV. Conclusion

Hip disarticulation is a highly mutilating and absolute surgery, with obvious far-reaching implications for limb functionality and high rates of complications and mortality. However, when performed in the proper time window and with a correct indication, it is a life-saving surgery that allows the patient to return home. For the success of this surgical procedure, early identification of indications of hip disarticulation is paramount; so as not to postpone an unavoidable situation and consequently mar the hitherto dismal prognosis.

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