

Road Traffic Accidents and Traumatic Amputations: Never Out of Sight!

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Editorial

Amputation is derived from the Latin word 'amputare' (to excise or cut) which means 'removal of a part or a body part enclosed by skin'. Major amputation refers to any amputation performed above the level of ankle. Amputation of a body part is a major irreversible tragedy for the patient and often a difficult decision for the orthopaedic surgeon. Amputations associated with road traffic accidents (RTA) are particularly devastating and life-changing forms of orthopaedic surgeries as these are an avoidable cause of ensuing functional disability and psychological trauma [1].

Trauma constitutes nearly 16% of the global burden of amputations as per the World Health Organization estimates and a great majority (90%) of these injuries occur in the developing countries [2,3]. Nearly 10,500 serious injuries occur in the United Kingdom each year resulting in 337 lower and 113 upper extremity amputations [4]. In the United States, almost 30,000 traumatic amputations occur each year [5]. Nearly 1.7 million people are estimated to be living with limb loss and one out of every 200 people in the U.S. has suffered an amputation [6]. More than 8,000 lower limb amputations are performed each year in Australia [7]. According to an old estimate, there were nearly 62 amputees in India per 1 lakh population [8]. This translated to nearly 1 million individuals with amputations in the country [9]. The most common indications for amputation vary across the studies; common ones being trauma (motor vehicle, railway track accidents, machinery injury, blasts, etc), complications of diabetes and peripheral vascular disease [10]. As compared with the developed world where atherosclerosis and peripheral vascular disease constitute the majority of causes of limb amputation [6], developing countries report trauma and diabetes to be the major causes. Important factors contributing to limb-loss include the severity and complexity of trauma, lack of primary care, delay in appropriate management and often neglected injuries. Motor vehicle accidents followed by pedestrian injury were the most common cause of lower extremity amputation. Understandably, the very high energy trauma associated with motor vehicle accidents leads to extensive bone, soft tissue and vascular damage as well as soft tissue contamination which become risk factors for later amputation secondary to uncontrollable infection. Although advances in surgical techniques involving repair of injured structures may have minimized the rates of amputation surgeries, yet am-

putation secondary to an extremity trauma still remains a major cause of morbidity in trauma centres in developing countries. The impact of amputation is widespread as it makes a young, active earning member of the family dependent, creates a life-long disability and need for continuing rehabilitation, causes loss of man-power and self-esteem. A meta-analysis of patients' perspectives on amputation versus limb salvage in mangled lower limb injuries, demonstrated that lower-limb reconstruction has a better psychological acceptance to patients than amputation even though the physical outcomes of both the procedures remained same [11]. Significant clinical and functional problems have been noticed to persist even in the long-term after 2-3 decades of limb amputation surgeries.

Amputations surgery, unfortunately, embodies a failure of therapy in the minds of most surgeons and their patients. The social stigma attached to the disability creates a negative impact in the psyche of the patient and affects timely surgery as well as rehabilitation. The big question in the Indian scenario remains about the right time of the most appropriate amputation!

The psychological stress may abate with time, especially the symptoms of anxiety and depression, but the surgical team needs to be aware of these potential comorbidities to provide holistic care to their patients and improve the surgical outcomes. They need to liaise with the psychiatrists and psychologists to support and deal with the psychological problems. Additionally, in order to be able to answer their patients' concerns about future mobility, symptoms, life-style adjustments and rehabilitation, surgeons need accurate information about the likely impact of different levels of amputations in limb injuries. Persistence of problems in the long run warrants new strategies in planning rehabilitation programs to improve quality of life and health status of patients. Amputee clinics with multidisciplinary team approach to carry out an amputation, following up these patients to assess recovery and then helping the patient and family to adjust to life is a complex task but a need of the hour, especially in our country.

We need to remember that amputation is a major health burden on the family, society and medical services. This sub-specialty of Orthopedics and surgery needs more attention than it receives currently. Amputation surgery is not the failure of any treatment but sometimes it is the only available treatment for the patient. Needless to say, road safety measures and prevention programs are an imminent need to prevent amputation in-

juries. Road traffic accidents and railway tract injuries are a preventable cause of trauma and amputation, and can be avoided by following traffic rules, controlling speed, and by taking precautions while riding in or out of trains.

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