Working hand in glove with the orthopaedic surgeon: the era of the aggressive trauma reconstructive surgeon

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Millions suffer major limb injuries annually in India. As many of them sustain skeletal injuries, they reach orthopaedic surgeons initially. Compound fractures, especially type IIIB, are fixed well but sometimes, inexperienced orthopaedic surgeons cannot address the soft tissue problems well. Especially over the lower leg where skin is not mobile and there is paucity of soft tissue, tension sutures are applied to pull and close the wound over the fracture site. These tricks do not usually work and the result is a wound with exposed bony fragments in its depth. These are often then subjected to multiple dressings only after which they are handed over to the trauma reconstructive surgeon for flap coverage. Wound coverage in this situation is fraught with complications of flap necrosis, wound infection and possibly sepsis and, chronic osteomyelitis. Quality of bony healing and consequently rehabilitation suffers. Unsatisfactory bone healing defers weight-bearing which has a significant negative impact in the lower limb salvage.

Pioneering work by Godina proved superiority of early flap coverage when he reported 0.75% failure rate of free flaps done within the first 72 hours after trauma. The failure rate was 21.5% when the procedure was carried out later.¹ Cierny et al reported lower flap failure rate, deep infection rate and non-union rate of the fractures in the group with early wound coverage.² Providing cover after 5–7 days delays bony union.

The scare of increased incidence of infection and ex-plantation after internal fixation in the patient with major limb trauma appears ill-founded in the face of current practice of aggressive debridement. Internal fixation, in the presence of a well-excised

and immediately covered wound, does not increase the rate of infection.³

Thus there has been a paradigm shift from delayed soft tissue coverage for the compound fracture to urgent debridement and flap coverage. This is the most appropriate way to handle limb trauma. A protocol that might work well for a lot of trauma centres in India, and indeed the Armed Forces, is allowing the trauma reconstructive surgeon to debride the wound. This can be followed by skeletal fixation by the orthopaedic surgeon. Then the reconstructive surgeon can execute flap coverage to effect primary wound cover. Alternatively, if the services of the plastic surgeon are not available immediately, debridement and skeletal fixation can be effected by the orthopaedic surgeon with an early referral to a reconstructive surgery centre for urgent soft tissue coverage before the contaminated wound gets infected.

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