Mangled extremity: to salvage or not to salvage?

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DESCRIPTION

A man aged 34 years post jump from the platform onto an incoming train presented as a level I trauma notification with bilateral mangled lower extremities and tourniquets in place (figure 1). Our patient was evaluated in a multidisciplinary fashion, making sure to follow proper ATLS guidelines. On presentation, he was hypotensive, but responded to crystalloid and blood products. Secondary survey revealed pulseless, paralysed extremities that lacked sensation and were grossly contaminated. The Mangled Extremity Severity Score (MESS) calculated as 9.[1] With all factors considered, the patient was emergently taken to the operating theatre for left above knee and right below knee amputations.

The mangled extremity represents complex injury of vasculature, nerve, soft tissue and bone. The management of limb salvage versus amputation remains a controversial topic. Salvage attempts can be associated with prolonged hospitalisations, increased costs, multiple procedures and increased mortality.[2]

Multiple factors have been identified which correlate with the need for amputation of mangled extremities. Based on objective criteria, scoring systems have been developed to help guide the decision process. The MESS uses four criteria to predict the need for amputation: extent of skeletal/soft tissue injury, limb ischaemia, shock and patient age. MESS ≥7 is highly predictive of need for amputation.[1]

Figure 1 Bilateral mangled lower extremities with a calculated Mangled Extremity Severity Score of 9 in a man aged 34 years who attempted suicide by jumping from a train platform.

Learning points

- The Mangled Extremity Severity Score (MESS) is a scoring system developed for the management of the mangled extremity, with scores <6 favouring salvage attempts.[1]
- Approach to the mangled extremity should involve multiple specialties and disciplines. There are numerous scoring systems developed for management of the mangled extremity aside from the MESS. Other scoring systems include the Predictive Salvage Index, Limb Salvage Index, Nerve Injury, Ischaemia, Soft tissue injury, Skeletal injury, Shock and Age of patient score and Gustillo-Anderson score. Studies have compared scoring systems, including MESS, and have failed to prove their validity.[1 3]
- There is no unanimously accepted scoring system guiding management of the mangled extremity; therefore, a systematic and multidisciplinary approach that encompasses all factors must be employed.[1 3]

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