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MANAGEMENT OF SEVERE POLYTRAUMA FOLLOWING A FALL FROM AN EIGHT-STORY BUILDING: A CASE REPORT AND EVALUATION OF ADHERENCE TO INTERNATIONAL GUIDELINES

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Background: High-energy trauma resulting from falls from height presents a complex clinical challenge requiring rapid prioritization of interventions, prompt resuscitation, and adherence to evidence-based international protocols. This case report describes the management of an 18-year-old male who sustained severe polytrauma following a suicide attempt by jumping from an eight-story building, evaluating the clinical course against Advanced Trauma Life Support (ATLS) and European trauma management guidelines.

Case Description: An 18-year-old male was admitted to the Emergency Department in a comatose state with signs of severe hemorrhagic shock (blood pressure, 85/50 mmHg; heart rate, 116 beats/min; SpO_2, 84%). Initial resuscitation included endotracheal intubation, central venous catheterization, and vasopressor support with norepinephrine and phenylephrine. Initial whole-body computed tomography (CT) revealed traumatic brain injuries, including parietal hemorrhagic contusions and subarachnoid hemorrhage; vertebral fractures at C5, T3, T6, T11, and L4; left-sided hemopneumothorax; extensive subcutaneous emphysema; bilateral pulmonary contusions; fractures of the first and fifth through seventh ribs and the scapula; and grade II liver, grade II splenic, and grade I renal injuries according to the American Association for the Surgery of Trauma (AAST) classification.

Management and Guideline Considerations: Emergency exploratory laparotomy was performed on the first post-injury day, with hepatorrhaphy, splenic laceration repair, and abdominal drainage, alongside left chest tube insertion. Cerebral protection and intensive neurological monitoring (sedation with thiopental and midazolam) were provided without surgical neurointervention. Following initial stabilization, follow-up ultrasonography and CT demonstrated a favorable course without the need for further intervention for the solid-organ injuries. In response to clinical concern for infection and elevated C-reactive protein levels (CRP,

170 mg/L), empirical antimicrobial therapy with meropenem and vancomycin was initiated. On post-injury day 7, the clavicle fracture was treated with open reduction and internal fixation. Subsequent clinical improvement permitted successful extubation and discontinuation of vasopressor support. Full neurological recovery was observed. Psychiatric assessment and management were provided for acute polymorphic psychotic symptoms and suicide risk. The patient was discharged on post-injury day 24 for continued specialized psychiatric care and physical rehabilitation.

Conclusion: The management of severe polytrauma following a fall from height requires prompt assessment, timely hemorrhage control, appropriate management of thoracic and traumatic brain injuries, and coordinated multidisciplinary care. This case illustrates the complexity of clinical decision-making in severe multisystem trauma and highlights the importance of evaluating individual interventions against established international guidelines.

Keywords: Polytrauma; ATLS principles; non-operative management; damage control surgery; traumatic brain injury.