

**SERUM INTERLEUKIN-6 LEVEL AS AN EARLY MARKER OF INJURY
SEVERITY IN TRAUMA PATIENTS IN MULAGO HOSPITAL: A CROSS-
SECTIONAL STUDY**

BY

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A thesis submitted in partial fulfillment of the requirements for the award of the Degree of
Master of Medicine in Surgery of Makerere University

2014

ABSTRACT

Background: Trauma is still the leading cause of death in many regions of the world. Severity scores have been developed to assist in management of trauma victims. Immune response to trauma has been known to positively correspond to the severity of trauma. Part of this response involves release of cytokines into blood circulation which promote the acute inflammatory response commonly seen after trauma. Studies have shown that IL-6 levels commonly correlate positively with the Injury Severity Score (ISS). The aim of this cross-sectional study was to determine whether this kind of relationship exists between IL-6 levels and injury severity in trauma patients in Mulago Hospital as defined by the Kampala Trauma Score (KTSII) which is locally developed.

Methods: Trauma patients aged ≥ 18 years presenting to the Accident and Emergency unit of Mulago National Referral Hospital (MNRH) within 12 hours after injury were recruited into the study after obtaining consent. Severity of injury was determined as per the Kampala Trauma Score (KTSII) and venous blood drawn for assay of serum IL-6 levels. Data obtained was entered and analyzed using Stata version 11 software focusing on the association between Serum IL-6 levels with Severity of trauma and duration of injury.

Results: A total of 159 patients were recruited (79 Mild and 80 Severe trauma) with a male to female ratio of 4.7:1. Road traffic crashes (67.92%) were the commonest cause of injury and involved pedestrians 45.37% of the time. Serum IL-6 levels were found to positively correspond with severity of injury ($z = 4.718$, $p < 0.001$). There was no significant correlation between serum IL-6 levels and duration of injury in both severe ($r = 0.12$, $p = 0.29$) and mild ($r = 0.06$, $p = 0.62$) trauma groups of patients. Only 9.43% of trauma patients were brought in an Ambulance.

Conclusions: Serum IL-6 levels correspond with severity of injury. However, within the first twelve hours after injury, these levels do not vary significantly with duration of injury.