

Centre Hospitalier Universitaire de Kigali

The study setting was Centre Hospitalier Universitaire de Kigali (CHUK), [Rwanda](#)'s national referral hospital. Adult injury patients presenting to the CHUK Emergency Department were prospectively enrolled from 1/27/20-6/28/20. Study personnel collected data on demographics, injury characteristics, serial neurological examinations, treatment, and outcomes. Differences in patients before (1/27/20-3/22/20) and during (6/1/20-6/28/20) the COVID-19 pandemic were assessed using chi-squared and Mann-Whitney tests.

Results: The study population included 216 neurotrauma patients (83.8% TBI, 8.3% spine trauma, and 7.9% with both). Mean age was 34.1 years (standard deviation=12.5) and 77.8% were male. Patients predominantly experienced injury following road traffic accident (65.7%). Weekly volume for TBI (mean=16.5 vs. 17.1, $P=0.819$) and spine trauma (mean=2.0 vs. 3.4, $P=0.086$) was similar between study periods. During the pandemic, patients had lower GCS (mean=13.8 vs. 14.3, $P=0.068$) and Kampala Trauma Scores (mean=14.0 vs. 14.3, $P=0.097$) on arrival, denoting higher injury severity, but these differences only approached significance. Patients treated during the pandemic period had higher occurrence of hemorrhage, contusion, or fracture on CT imaging (47.1% vs. 26.7%, $P=0.003$) and neurologic decline (18.6% vs. 7.5%, $P=0.016$). Hospitalizations also increased significantly during COVID-19 (54.6% vs. 39.9%, $P=0.048$). Craniotomy rates doubled during the pandemic period (25.7% vs. 13.7%, $P=0.003$), but mortality was unchanged (5.5% vs. 5.7%, $P=0.944$).

Conclusions: Neurotrauma volume remained unchanged at CHUK during the COVID-19 pandemic, but presenting patients had higher injury acuity and craniotomy rates. These findings may inform care during pandemic conditions in Rwanda and similar settings ¹⁾.

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