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Safety And Efficacy of Prehospital Paramedic Administration of Ketamine In Adult Civilian Population

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were categorized “quantity not sufficient.” Of those tested 44% were male, 20% were White, 20% Black, 6% Asian, and 54% other. Most had Medicaid (41%) Medicare (20%) or commercial insurance (22%). A minority (16%) were uninsured. Risk-factor information was collected on 157 of 300 patients (52%) with reactive HCV Ab tests of whom 23% had no identified risk factors. Targeted HCV screening based on risk factors and age would have missed 4% (12/300) of those with a reactive Ab test and 4% (4/100) of those with a positive VL.

Conclusion: Universal, non-targeted HCV screening identified a large number of patients with HCV (6% prevalence) and viremia (1.8% prevalence). Targeted screening would have missed a small but significant number of patients with active infection.

15 Impact of Trauma Levels on Survival of Patients Arriving with No Signs of Life to U.S. Trauma Centers

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Objective: Trauma level designation and verification are examples of healthcare regionalization aimed at improving patient outcomes. This study examines the impact of trauma levels on survival of patients arriving with no signs of life to trauma centers in the United States.

Design and Method: This retrospective study used the U.S. National Trauma Data Bank (NTDB) 2015 dataset. We performed a descriptive analysis followed by a bivariate analysis comparing variables by the trauma designation levels. A multivariate analysis assessed the effect of the trauma designation on survival to hospital discharge after controlling for potential confounding factors.

Results: We included 6160 patients without signs of life. The average age was 40.66 years (± 19.96) with male predominance (77.3%). Most patients were transported using ground ambulance (83.5%) and were taken to Level I (57%) and Level II (32.4%) trauma centers. Blunt injuries were the most common (56.9%). Motor vehicle transport (38.5%) and firearm (33.8%) were the most common mechanisms of injury. Survival to hospital discharge among patients with no signs of life ranged from 13.7% at Level I to 27.9% at Level III. After adjusting for confounders, including the Injury Severity Score (ISS), higher survival was noted at Level II compared to Level I trauma centers.

Conclusion: Patients presenting without signs of life to Level II trauma centers had higher survival to hospital discharge compared to Level I and Level III centers. These findings can guide future prehospital triage criteria of trauma

patients in structured emergency medical services (EMS) systems and highlight the need for more outcome research on trauma systems.

16 Safety And Efficacy of Prehospital Paramedic Administration of Ketamine In Adult Civilian Population

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Objective: Opiates are addicting and have a high potential for dependency. Opiate-related overdoses now claim 130 American lives each day, and the opiate epidemic costs nearly \$80 billion annually. In past decades, opiates were a mainstay of prehospital treatment for acute traumatic pain in the civilian population. Ketamine is a N-methyl-d-aspartate receptor antagonist that has analgesic properties and may serve as an alternative agent for the treatment of acute traumatic pain in the prehospital setting. This study aimed to assess the safety and efficacy of ketamine administration by paramedics in a civilian prehospital setting for the treatment of acute traumatic pain.

Design and Method: This was a prospective, observational study conducted in the counties of San Bernardino, Riverside and Stanislaus in the state of California. The inclusion criteria were patients > 15 years of age with complaint of traumatic or burn-related pain. We excluded patients if they had received opiates prior to or concurrently with ketamine administration. Dose administered was 0.3 milligrams per kilogram (mg/kg) intravenously over five minutes with maximum dose of 30mg. Option to administer a second dose was available to paramedics if the patient continued to have pain after 15 minutes following the first administration. We conducted paired-T tests to assess the change in the primary outcome (pain score) and secondary outcomes (eg, systolic blood pressure [SBP], respiratory rate, and pulse). P value <0.05 was considered to be statistically significant.

Results: We included 368 patients in the final analysis. The average age was 52.9 \pm 23.1 years old, and the average weight was 80.4 \pm 22.2 kg. There was a statistically significant reduction in the pain score (9.13 \pm 1.28 vs 3.7 \pm 3.4, delta = 5.43 \pm 3.38, p<0.0001). Additionally, there was a statistically significant change in SBP (143.42 \pm 27.01 vs 145.65 \pm 26.26, 2.22 \pm 21.1, p = 0.0440), pulse (88.06 \pm 18 vs 84.64 \pm 15.92, delta = -3.42 \pm 12.12, p<0.0001), and respiratory rate (19.04 \pm 3.59 vs 17.74 \pm 3.06, delta = -1.3 \pm 2.96, p<0.0001).

Conclusion: This study suggests that the administration of a subdissociative dose of ketamine by paramedics in the

prehospital setting is an effective analgesic in selected adult trauma patients. Additionally, ketamine did not demonstrate the adverse effects (eg, respiratory failure or hypotension) typically seen in opioid administration.

17 Prognostic Factors of Poor Outcome in Geriatric Traumatology Patients in the Emergency Department

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Background and Objective: Identification of elderly trauma patients who are likely to have poor outcome may help the emergency physician to provide better management. We sought to evaluate the current management of geriatric traumatology patients in our emergency department (ED) and to identify the prognostic factors of poor outcome in elderly traumatic patients.

Design and Methods: We conducted a retrospective study in an ED over a period of one year, based on file analysis of 768 trauma elderly patients. We included all patients older than 65 years admitted to the ED after a fall, and we excluded critical patients. Epidemiological, clinical, biological, therapeutic, and evolution criteria were collected. We defined poor outcome by mortality at day 28, and we used multivariate logistic regression to obtain the probability of a death at 28 days.

Results: We enrolled 768 patients in the study. Mean age was 78 years [71-85], and the gender ratio was 2.07. Comorbidities included the following: hypertension N = 426 (23%); dyslipidemia N= 257 (14%); diabetes N = 150 (9%); osteoporosis N= 136 (8%); prosthetic orthopedic equipment N = 124 (7%); history of fall N = 139 (8%); dementia N=138 (7%); and depression N=138 (7%). Of the cases involving falls, 67% were of less than two meters. We found that 76.87% of the population took at least three medications. The over-all mortality was 2.2% with 11 patients dead at day 28.

We performed a univariate logistic regression to select the best predictors of mortality at 28 days, which were reduced to three in multivariable logistic regression: the C-reactive protein (CRP) test with an odds ratio (OR) at 1.01 and confidence interval (CI) 95%, 1.00 – 1.01, p = 0.05; the Index Severity Score (ISS) face with an OR at 2.24 and CI 95%, 1.12 – 4.47, p = 0.02; and the hospitalization rate with an OR at 1.71 and CI 95%, 1.07 – 2.72, p = 0.02.

Conclusion: CRP, the ISS face, and being hospitalized appear to predict poor outcome in elderly traumatic patients admitted in the ED. Future prospective and multicentric studies are needed to validate these findings.

18 Can Prehospital Personnel Accurately Triage Patients for Large Vessel Occlusion Strokes?

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Objective: The Field Assessment Stroke Triage for Emergency Destination (FAST-ED) score has been shown to have a higher predictive value compared to the National Institutes of Health Stroke Scale (NIHSS) to identify large vessel occlusion strokes (LVOS). The study suggested that patients with a score of 4 or greater should be taken directly to a comprehensive stroke center where endovascular intervention is available rather than to the closest emergency department (ED). However, the score in this study was assessed when a stroke patient had already arrived at the hospital. To date, no study has been done to validate using the FAST-ED score in the prehospital setting. Our study compares prehospital FAST-ED scores with FAST-ED scores done by emergency medicine senior resident or attending physicians when patients arrive in the ED.

Design and Methods: Miami-Dade County emergency medical services (EMS) personnel were trained to calculate a FAST-ED score for any patient suspected of having an ischemic stroke or transient ischemic attack in the field (EMS FAST-ED). When the patient arrived in the ED of a comprehensive stroke center a physician completed a FAST-ED score (ED FAST-ED). Both numbers were recorded. Imaging was taken in accordance with hospital stroke guidelines. We excluded from the study intracranial hemorrhages seen on the non-contrast brain computed tomography. LVOS were defined as complete or partial occlusion of the internal carotid artery, middle cerebral artery, and basilar artery.

Results: We studied 130 patients whose ages averaged 73.2±18 years. LVO was detected in 28 of 130 patients (22%). There were no differences between the medians for EMS FAST-ED scores (3 [interquartile ratio (IQR) 1-4.25]) and the medians for the physician-generated scores (4 [IQR 1-6]; p = 0.696, Mann-Whitney U test.). Further, the median of the differences between the individual EMS and the ED scores were not different from zero (median for the differences = 0 [IQR -1, 2]; p = 0.67, Wilcoxon signed-rank sum test). In addition, EMS FAST-ED scores were strongly correlated with the physician FAST-ED scores (r² = 0.26; p<0.001).

For scores ≥4 EMS FAST-ED had a sensitivity of 0.57 and a specificity of 0.70, and ED FAST-ED scores had a sensitivity of 0.68 and a specificity of 0.72. The area under the receiver operating characteristic curve for EMS was