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A comparison of ketamine and morphine analgesia in prehospital trauma care: a cluster randomized clinical trial in rural Quang Tri province, Vietnam.

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BACKGROUND: The use of opioid analgesics in prehospital trauma care has been reported to have negative side effects on the airway and circulation. Several studies of urban trauma management have recommend ketamine as a safe and efficient nalgesic. To date, however, no controlled trials of prehospital opioid analgesics versus ketamine in rural trauma management have been published.

OBJECTIVE: This study aimed to compare the analgesic effects and side effects of ketamine and morphine in a prehospital, low-resource setting.

METHODS: The study was conducted with a prospective, cluster-randomized design. The Quang Tri province of Vietnam was divided into two sectors that alternated monthly between ketamine and morphine treatments. A total of 169 trauma patients were treated outside hospital settings with ketamine, while 139 patients were treated with morphine.

RESULTS: The treatment effects were measured by comparing the Visual Analogue Scale (VAS) ratings in the field to those upon on admission. The analgesic effects were positive and similar for the two drugs. The rate of vomiting was significantly lower in the ketamine group (5%) than in the morphine group (19%, 95% CI for difference 8-22%). The rate of hallucinations and agitation was higher in ketamine-treated patients (11%) than in the morphine-treated patients (1.5%, 95% CI for difference 4-16%). In this study, patients with head trauma (n = 57) showed no adverse effects on consciousness level after being treated with ketamine.

CONCLUSION: Ketamine had an analgesic effect similar to morphine and carried a lower risk of airway problems. The risk of hallucinations and agitation was increased in the ketamine group. These findings are of medical significance, particularly in rough and low-resource scenarios.