Abstract:

BACKGROUND: The optimal goal of naloxone infusion in intensive care units is to ameliorate opioid-induced side effects in therapy or eliminate the symptoms of opioid toxicity in overdoses. Accurately monitoring and regulating the doses is critical to prevent adverse effects related to naloxone administration. The present study aimed to compare treatment outcomes when using two methods of intravenous naloxone infusion: an infusion pump or the standard method.

METHODS: This study involved 80 patients with signs and symptoms of opioid overdose. The patients were randomly assigned into two groups with respect to intravenous infusion of naloxone by either an infusion pump or the standard method.

RESULTS: Comparison of study parameters between the two groups at 12 and 24 hours after intervention showed significantly more compensatory acid-base imbalance in the naloxone infusion pump group. In the group that received naloxone by pump, only one patient experienced withdrawal symptoms, but withdrawal symptoms appeared in 12 patients (30.0%) in the standard intravenous infusion group within 12 hours and in seven additional patients (17.5%) within 24 hours of intervention. In the group receiving pump-based naloxone infusion therapy, no another complications were reported; however in the standard infusion group, the 12-hour and 24-hour complication rates were 55.0% and 32.5%, respectively. The length of hospital stay was 2.85±1.05 and 4.22±0.92 days for the pump and standard infusion groups, respectively ($P<0.001$).

CONCLUSIONS: Naloxone infusion using an infusion pump may be safer with regard to hemodynamic stability, resulting in shorter hospitalization periods, and fewer posttreatment complications.

Reference:

Dadpour, B., Vahabzadeh, M. and Mostafazadeh, B. (2020) Comparison of the efficacy of an infusion pump or standard IV push injection to deliver naloxone in treatment of opioid toxicity. Acute and Critical Care. 35(1), p.38-43. doi: 10.4266/acc.2020.00010.

Full Text