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Title:

Relationship of naloxone dose utilization with treatment outcomes in methadone poisoned patients in Noor hospital in 1392-1394

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Abstract

Background:

More than 3000 deaths have been documented in relation to opioid toxicity in 2015, based on IRI legal med organization report in this year. Opioid overdose is characterized by triad of miosis, CNS depression and hypoventilation. In opioid overdose patients the leading cause of death is respiratory failure. In opioid nondependent patients naloxone utilization has limited adverse effect but in opioid dependent patients naloxone can cause opioid withdrawal syndrome. Tachycardia can increase oxygen demand of cardiac muscle and aggravates ischemic events in patients with coronary artery atherosclerosis.

The other aspect of naloxone adverse effect in opioid dependent patients is related to emesis and vomiting. Vomiting in a patient with any degree of decreased level of consciousness increases the risk of aspiration of gastric content and subsequent aspiration pneumonia. In earlier textbooks of medicine, naloxone was introduced as a member of coma cocktail drugs that should have been administered to any patient with decreased level of consciousness with a starting dose of 2 milligrams. In recent years this dose has been diminished to 0.04 mg which escalates to 0.1mg and then 0.4 and 2 mg per dose.

Based on differences of naloxone adverse effects in opioid dependent versus nondependent patients we tried to find out differences in treatment outcome of naloxone utilization between these two groups.

Material & methods:

This is a cross sectional study that collects and evaluates patients charts information who admitted to toxicologic emergencies ward of Noor hospital in a 3 year span from 1392 to 1394. Admitted patients age 18 years and more in Noor hospital toxicologic emergencies ward between 1392 and 1394, and documented overdose with methadone were considered inclusion criteria. Exclusion criteria Considered as missing data more than 25% of total required data which should be collected for each patient's chart.

Results:

432 patients chart was evaluated in this study. Mean naloxone dose administered to opioid dependent patients was 2.69 milligrams (maximum administered dose was 26.5 mg). Aspiration pneumonia was documented in 2.1 %(9 patients) patients. In 28 (6.5%) patients, acute coronary syndrome subsequent to naloxone administration.

Conclusion:

Administration of naloxone in opioid dependent patients can be started with doses as low as 0.04 mg and subsequent scaling as needed. Patients who are at higher risk of acute coronary syndrome such as older patient or patients with history of myocardial infarction or those who have higher probability of coronary atherosclerosis can be managed appropriately with endotracheal intubation and further mechanical ventilation as needed.

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