Previous studies have demonstrated large variation in administered doses of intravenous acetylcysteine, which has been attributed to numerous factors, including inadequate mixing of infusion bags” Layne et al (2018).

Abstract:

Intravenous acetylcysteine is commonly prescribed as a course of three infusions for the management of paracetamol poisoning. Previous studies have demonstrated large variation in administered doses of intravenous acetylcysteine, which has been attributed to numerous factors, including inadequate mixing of infusion bags. The aim of this study was to determine whether the amount of mixing of infusion bags contributes significantly to this variation. Using acetylcysteine doses for a 60-69 kg patient we added the appropriate volume of acetylcysteine to 5% glucose and subsequently inverted the infusion bags to mix the solutions 0-5 times. Infusion bags were then run through using an infusion pump and acetylcysteine concentrations measured at the beginning and end of the infusions. We found no significant difference between the beginning and end concentrations of acetylcysteine regardless of whether bags were mixed or not; infusion 1 (150 mg/kg) showed beginning and end concentrations of 44.61 and 42.48 mg/ml respectively after 0 mixes, whilst beginning and end concentrations were 44.45 and 44.58 mg/ml respectively after 5 mixes. The same trend was observed for infusions 2 and 3. This confirmed that mixing does not play a substantial role in variation of drug concentrations; these are likely to be caused by an
Studies demonstrate large variation in administered doses of intravenous acetylcysteine.

accumulation of small errors in infusion preparation.

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