
Abstract:

OBJECTIVE: Although the use of anesthetic creams before intravenous (IV) insertion has been shown to be both safe and effective in decreasing pain during IV cannulation, the use of any single agent based on efficacy is not yet considered the standard of care in children. We sought to compare a commonly used preparation, 4% liposomal lidocaine (Maxilene), with 4% amethocaine (Ametop), a newer agent with reportedly good efficacy and an intrinsic vasodilatory effect.

METHODS: A total of 60 children aged 5 to 12 years were randomized to receive topically either 4% amethocaine or 4% liposomal lidocaine before IV cannulation. The primary outcome variable was the child’s rating of pain using the Faces Pain Scale – Revised. Secondary outcomes included success rate on first IV cannulation attempt, cannulation difficulty ratings by the nurses, and adverse skin reactions.

RESULTS: We found no statistically significant differences in self-reported scores in the Faces Pain Scale-Revised with the use of 4% amethocaine versus 4% lidocaine before IV cannulation. There was a trend toward fewer IV cannulation attempts in the 4% amethocaine...
group. Adverse skin reactions were uncommon, and there were no statistically significant differences between groups.

DISCUSSION: This study demonstrates that there is no difference between 4% amethocaine and 4% liposomal lidocaine in reducing pain associated with IV cannulation in children. Amethocaine confers no advantage in improving IV cannulation success rate over lidocaine. Both agents are associated with few local adverse skin reactions.