We assessed using a prospective randomized controlled trial whether the application of heat gel pack increases the needle procedure success rate. The primary study outcome was procedural success rate at the first attempt" Schreiber et al (2017).

Abstract

OBJECTIVE: Needle-related procedures are the most common sources of pain for children in the hospital setting. The most used topical anesthetic, eutectic mixture of local anesthetic (EMLA) cream, may cause transient vasoconstriction. It has been postulated that this vasoconstriction may decrease vein visualization. The application of heat gel pack after removal of EMLA cream in the site of venipuncture counteracts the vasoconstriction, improving vein visualization. We assessed using a prospective randomized controlled trial whether the application of heat gel pack increases the needle procedure success rate. The primary study outcome was procedural success rate at the first attempt.

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METHODS: The study enrolled 400 children, 200 of whom applied heat gel pack after removing EMLA (treatment group) and 200 did not (control group). Procedural success rate at the first attempt, vein perception before procedure, procedural pain, and adverse events were recorded in both groups.

RESULTS: Eighty-eight percent of the procedures were successful at the first attempt in the treatment group and 89% in the control group (P = 0.876). Vein perception was not significantly different in the 2 groups (P = 0.081). Pain score after the procedure was similar in the 2 groups.

CONCLUSIONS: This study shows that the application of heat gel pack after removal of EMLA cream does not improve venipuncture or intravenous cannulation success rate.

Reference:

Schreiber, S., Cozzi, G., Patti, G., Taddio, A., Montico, M., Pierobon, C. and Barbi, E. (2017) Does the Application of Heat Gel Pack After Eutectic Mixture of Local Anesthetic Cream Improve Venipuncture or Intravenous Cannulation Success Rate in Children? A Randomized Control Trial. Pediatric Emergency Care. July 17th. .

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