



To determine the efficacy and safety of EMLA in infants <3 months of age requiring venipuncture in comparison with nonpharmacological interventions in terms of pain reduction, change in physiologic variables, and methemoglobinemia” Shahid et al (2019).

Abstract:

CONTEXT: The eutectic mixture of lidocaine (EMLA) cream has been used to reduce the pain during venipuncture in infants.

OBJECTIVE: To determine the efficacy and safety of EMLA in infants <3 months of age requiring venipuncture in comparison with nonpharmacological interventions in terms of pain reduction, change in physiologic variables, and methemoglobinemia. **DATA SOURCES:** Medline, Embase, Cochrane Central Register of Controlled Trials, Cumulative Index to Nursing and Allied Health Literature, Web of Science, and gray literature were searched from inception to August 2017, without language restrictions. **STUDY SELECTION:** We selected randomized controlled trials in which researchers compared EMLA with nonpharmacological interventions. **DATA EXTRACTION:** Two reviewers independently performed abstract screening and full-text review, and extracted the data and assessed the risk of bias. **RESULTS:** Ten randomized controlled trials (907 infants) were included. EMLA revealed little or no effect in reduction of pain (standardized mean difference: 0.14; 95% confidence interval

[CI]: -0.17 to 0.45; 6 trials, n = 742; moderate-quality evidence) when EMLA was compared with sucrose, breastfeeding, or placebo. In comparison with placebo, EMLA revealed a small-to-moderate effect on increasing methemoglobin levels (mean difference: 0.35; 95% CI: 0.04 to 0.66; 2 trials, n = 134; low-quality evidence). There was an increased risk of blanching of the skin in the EMLA group (relative risk: 2.63; 95% CI: 1.58 to 4.38; 2 trials, n = 123; I² = 84%, very low-quality evidence). LIMITATIONS: Our results may not be applicable to older infants. CONCLUSIONS: EMLA reveals minimal benefits in terms of reduction of pain due to venipuncture procedure in comparison with placebo and no benefit in comparison with sucrose and/or breastfeeding. Moreover, it produced an elevation in methemoglobin levels and skin blanching.

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Reference:

Shahid, S., Florez, I.D. and Mbuagbaw, L. (2019) Efficacy and Safety of EMLA Cream for Pain Control Due to Venipuncture in Infants: A Meta-analysis. *Pediatrics*. 143(1), p.e20181173.

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