

MINIMIZING INFANT VACCINE PAIN



Question

What is the relative effectiveness of additive pain interventions during vaccination in infants?

Background

Vaccine injections → Acute pain & distress → Vaccine hesitancy

Study

Multicentre • longitudinal • double-blind • add-on • randomized control trial

Study interventions:

Placebo control*

Video about infant soothing

Oral sucrose

Topical lidocaine

Infants randomly assigned to 1 of 4 levels of pain management for all vaccines at 2, 4, 6 and 12 months:

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Group 1

Group 2

Group 3

Group 4

*Double-dummy design: all parents watched a video (intervention or placebo), all infants received oral solution (sucrose or placebo) and topical cream (lidocaine or placebo); all infants received injection techniques to minimize pain.

Results

- 352 infants participated in the study, from Jan. 17, 2012 to Feb. 2, 2016.
- Infant distress was assessed using the Modified Behavioural Pain Scale.
- The **scores were lower for the video-sucrose-lidocaine** group compared with the control ($p < 0.001$), video ($p = 0.003$), and video-sucrose ($p = 0.005$) groups.
- The mean \pm standard deviation needle pain score was 6.3 ± 0.8 in the video-sucrose-lidocaine group and 6.7 ± 0.8 in each of the other groups.

Interpretation

Only **liposomal lidocaine provided consistent analgesia** within additive pain intervention regimen during vaccination in infants.