MINIMIZING INFANT VACCINE PAIN

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

Background

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:

- Group 1: P
- Group 2: V
- Group 3: V S
- Group 4: V S L

*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

- 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 ± 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.