

Society for Pediatric Pain Medicine
Visual Pearl Series



Changes in T-wave morphology during local anesthetic injection

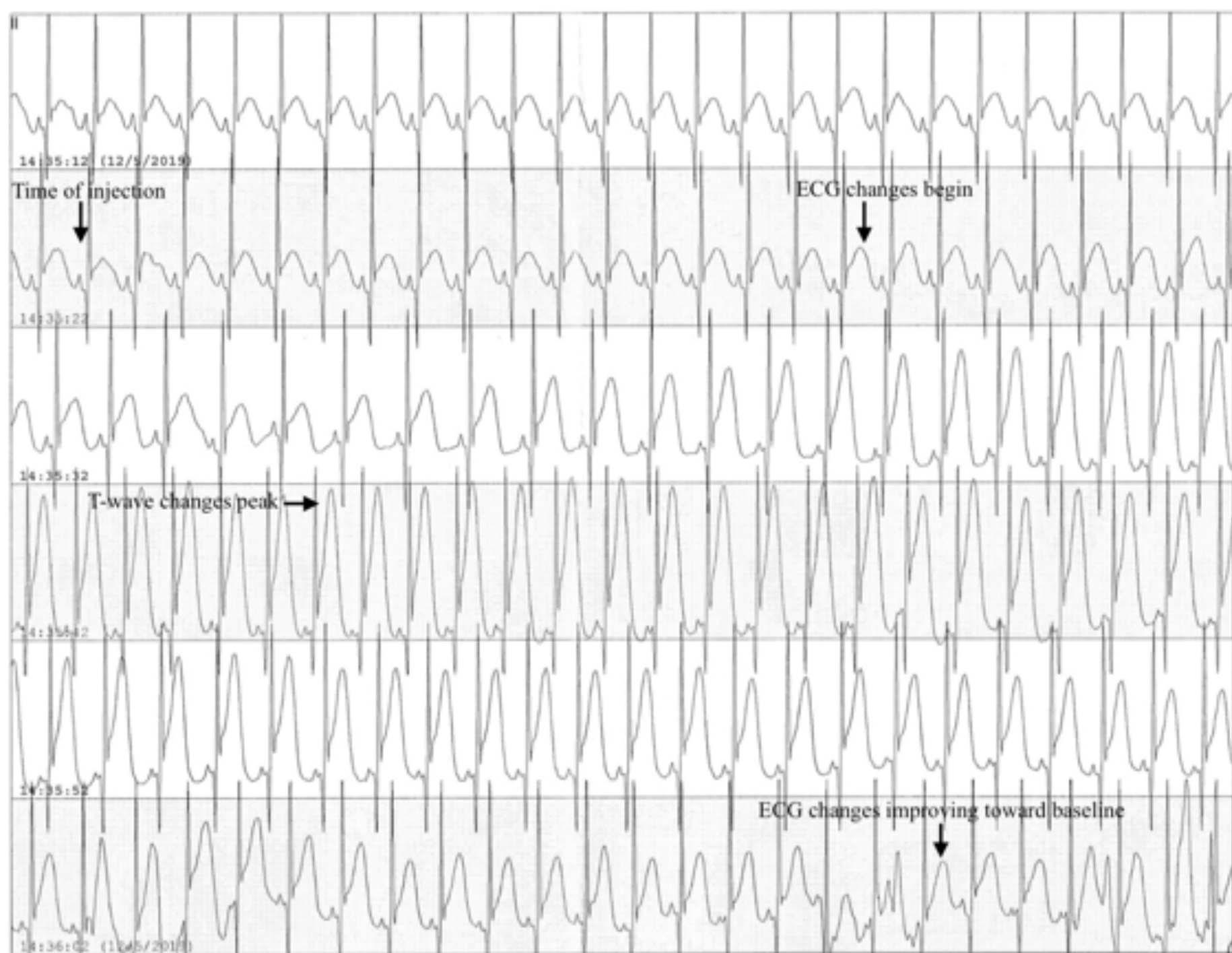
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Background

- 2-month-old, 2.3kg infant, undergoing laparotomy
- Plan for general anesthesia and caudal block
- Following negative test aspiration, 0.5mL of 0.125% bupivacaine with 1:400 000 epinephrine was injected into the caudal space

- Immediately after local anesthetic injection, profound increase in T-wave amplitude + ST segment elevation was observed in lead II
- Within 45 seconds, ECG changes spontaneously resolved + returned to baseline
- No change in blood pressure



Local anesthetic systemic toxicity (LAST)

- Infants < 6 months old are at highest risk of LAST
- The earliest signs of LAST in children are cardiovascular, including QRS and T-wave changes or cardiac arrest

Prevention of LAST in pediatric patients

- Vigilance and education
- Use the lowest effective dose of local anesthetic
- Use an epinephrine containing test-dose (0.5mcg/kg)
- Always use appropriate monitoring (ECG, HR, BP) while injecting local anesthetic
- Negative aspiration for blood has a high false negative rate
- Always inject local anesthetic slowly in small aliquots, with frequent aspiration



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Better Care for Children in Pain

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