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The Use of 2-chloroprocaine for Labor Analgesia in a Patient with Lidocaine Allergy



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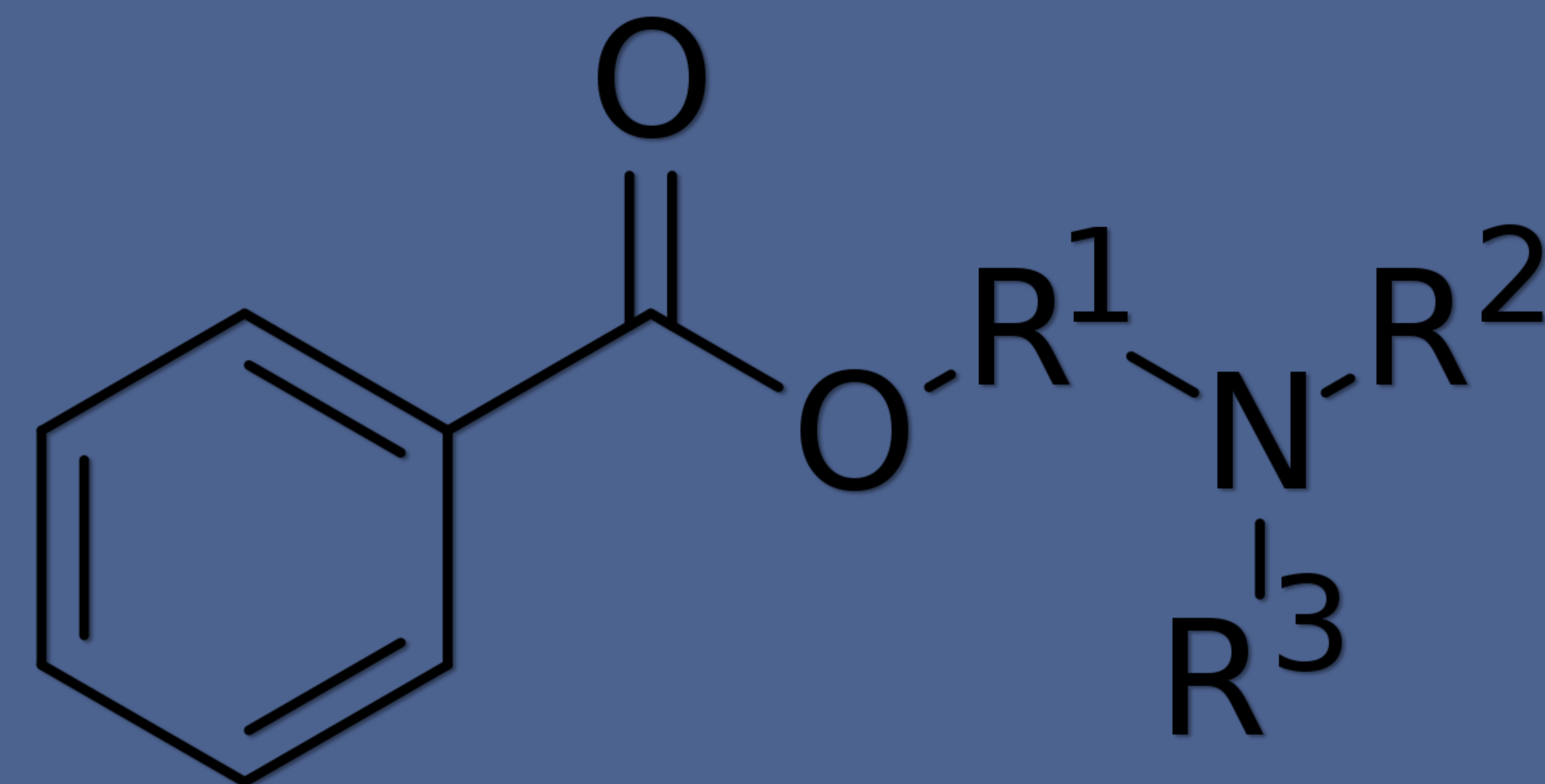
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INTRODUCTION

Local anesthetics (LA) serve as the cornerstone of epidural analgesia. The introduction of novocaine and its use in 1909 as a single shot procedure in the caudal epidural space to provide pain relief in labor by Walter Stoeckel [1] led to a series of advancements and milestones that has perfected this technique. These advances have led to the development of the Combined Spinal-Epidural (CSE) technique along with the Patient Controlled Epidural Analgesia (PCEA) that is used widely today to provide analgesia for labor. However, limited data is provided to those patients who are allergic to the amide group of LA. We present a case of chloroprocaine use for epidural labor analgesia in a patient reporting allergic reaction following exposure to lidocaine.

PATIENT HISTORY

- 35-year-old, G1P0 referred to the obstetric anesthesia for consultation prior given a reported history of lidocaine allergy.
- PMH: Chronic hypertension, no other medical or surgical history
- No history of anesthetic history. Lidocaine exposure twice with lidocaine patch and lidocaine cream leading to hives, erythema, periocular and perioral swelling,, no respiratory compromise (presented to and discharged from ED without the need of intubation or admission.
- Consultation with the Allergy and Immunology division to establish a safety profile concerning particular local anesthetics given that both bupivacaine and lidocaine are amide agents and potential for cross-reactivity however this consult didn't take place.





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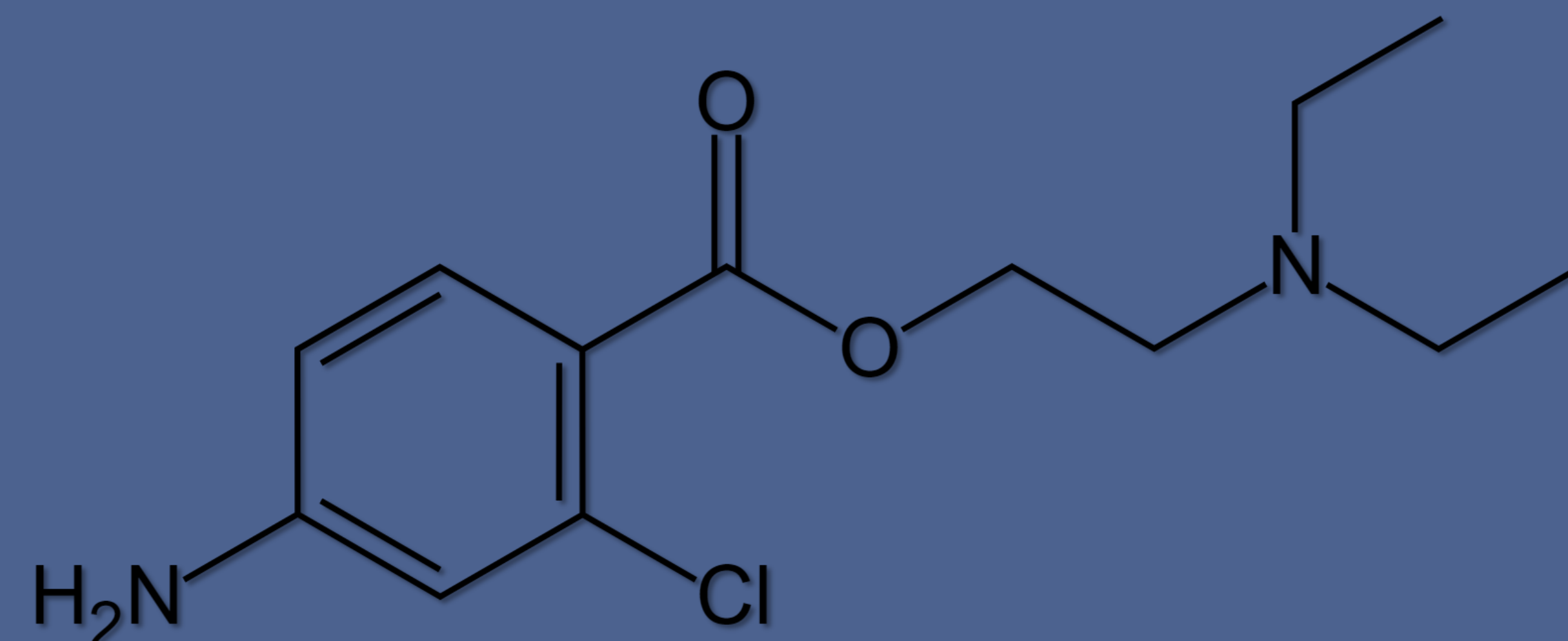
CLINICAL COURSE

- Patient was admitted for induction of labor at 39 weeks due to chronic hypertension. Labor epidural analgesia was requested.
- Lidocaine containing products (for subcutaneous infiltration and for test dose) were disposed of and replaced with chloroprocaine 3% for skin infiltration. Following uncomplicated epidural catheter placement, no test dose was given.
- Epidural analgesia was initiated with a 5 mL bolus of 1% 2-chloroprocaine followed by PCEA 1% 2-chloroprocaine (12 mL/hour continuous infusion with a 5 mL demand dose every 20 min).

18 hours later, the patient was noted again to have inadequate analgesia. PCEA settings were adjusted to 14 mL/hr with a 7 mL demand dose following a bolus of 5 mL of 3% 2-chloroprocaine achieving adequate analgesia.



After 10 hours of adequate labor analgesia the patient reported increasing pain. Following examination, the epidural catheter was replaced due to migration, and analgesia was restarted at the same PCEA solution and settings followed by pain relief within 30 minutes.



- 21 hours later the local anesthetic concentration was increased to 1.5% 2-chloroprocaine with the same PCEA settings due to inadequate analgesia following a 100 mcg bolus of epidural fentanyl. Shortly thereafter, the decision was made to proceed with cesarean delivery due to arrest of dilation.
- The patient received a 20 mL bolus of 3% 2-chloroprocaine with bicarbonate and delivered a healthy 2870 g female with APGAR scores of 8 and 9 at 1 and 5 minutes.



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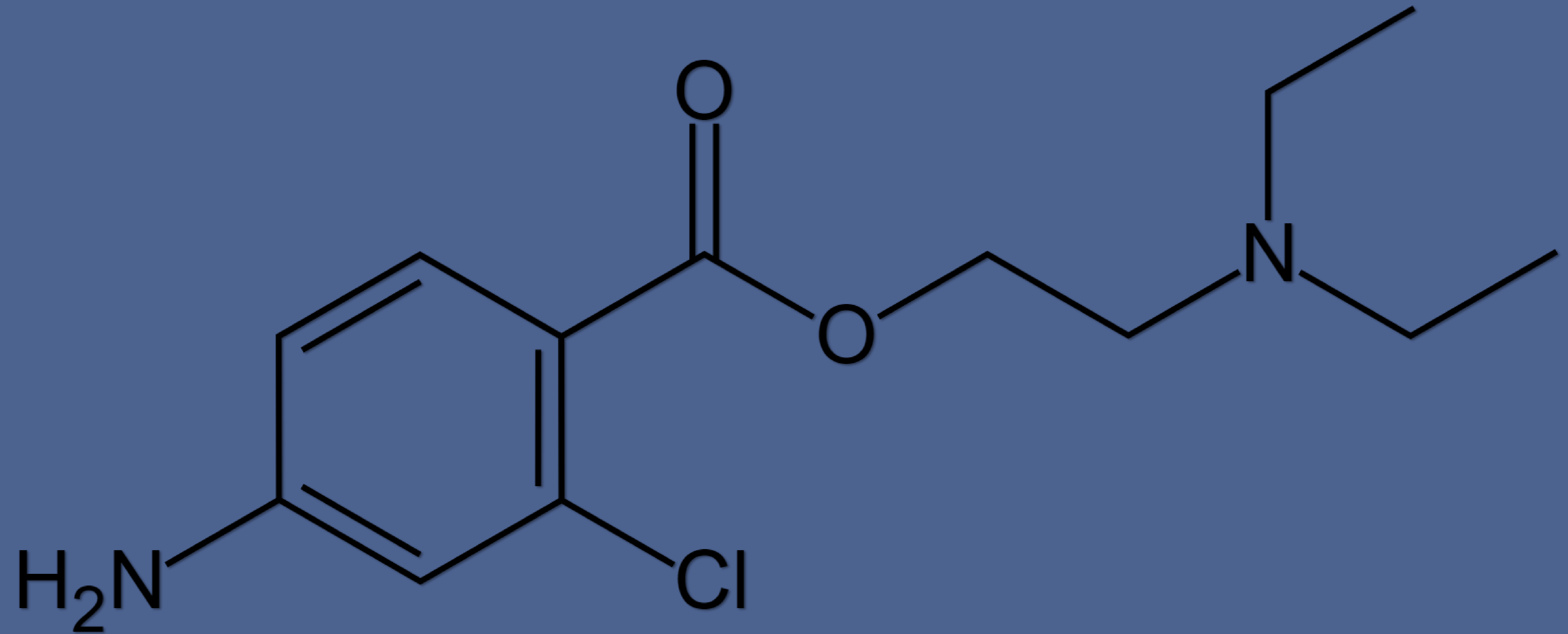
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DISCUSSION

- We present the use of 2-chloroprocaine (0.3 to 1.5%) to provide adequate pain relief a patients with reported lidocaine allergy. However, there are no clear guidelines however on its use.
- Neuraxial analgesia remains the best modality to address pain associated with labor. Other modalities include, but are not limited to, intravenous opioids and inhaled nitrous oxide which less effective than epidural labor analgesia and are associated with a greater side effect profile. Given the rarity of true lidocaine allergy, guidelines and protocols for this subset of population remains scarce. Further research is still warranted in creating safe and effective labor analgesic protocols utilizing chloroprocaine.



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