

Evaluation of Neosaxitoxin as a local anesthetic during piglet castration: A potential alternative for Lidocaine

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Objective: To evaluate Neosaxitoxin (NeoSTX) as a local anesthetic drug, for pain control during and after piglet castration. **Study design:** Prospective, randomized and double-blind study. **Animals:** 24 commercial hybrids, males, 23-day-old piglets. **Methods:** The piglets were randomized into two groups: a Lidocaine group and a NeoSTX group. One minute before castration, they were injected intra-scrotally with a single dose of Lidocaine (20 mg, in 1 mL) and NeoSTX (0.1 µg, in 1 mL), respectively. **Results:** NeoSTX does not generate vasoconstriction or scrotal contraction, unlike Lidocaine, where a decrease in temperature and scrotal size is observed within 5 min after the procedure. After 24 h, wound inflammation, as measured by scrotal size, was lower in the NeoSTX group. No significant difference could be shown between the vocalizations and facial expressions of pain of both groups during the castration procedure. **Conclusions:** A single dose of NeoSTX is safe and effective for pain management during and after piglet castration. NeoSTX treated piglets were less affected by castration than those in the Lidocaine group, thus reducing piglet stress and enhancing the quality of piglet convalescence.