Objective: To determine the anaesthetic and systemic effects of dorsolumbar epidural anaesthesia using non-stylet multiport catheters via the caudal approach to administer hyperbaric 5% lidocaine or hyperbaric 0.5% bupivacaine to the flank in standing cattle.

Materials and methods: Six healthy adult cattle weighing 310 to 455 kg were studied. The animals received 0.2 mg/kg hyperbaric 5% lidocaine or 0.025 mg/kg of hyperbaric 0.5% bupivacaine; control animals received 0.9% saline solution. All drugs were injected into the dorsolumbar epidural space via a caudal approach through a non-stylet multiport catheter. Each animal received each treatment at random. Evaluations of anaesthesia, ataxia, heart rate, arterial pressure, respiratory rate, and rectal temperature were obtained at 0 (basal), 5, 10, 15, 30, 45, 60, 75, and 90 min after epidural injection and then at 30-min intervals until loss of anaesthesia. All animals received a standard noxious stimulus; a 4-point scale was used to score the response. A second scale was used to score ataxia.

Results: The duration of anaesthesia in the upper and lower flanks in cattle was 68 ± 12 and 110 ± 15 min (mean ± SD) after dorsolumbar epidural hyperbaric lidocaine or hyperbaric bupivacaine, respectively. Both hyperbaric local anaesthetics produced a mild ataxia. The systemic changes were within acceptable limits in these clinically healthy cattle.

Conclusion: Dorsolumbar epidural injection of hyperbaric lidocaine provided faster onset of anaesthesia and fewer cardiovascular effects but had a shorter duration of anaesthesia than hyperbaric bupivacaine in standing cattle.