

Caudal Epidural Procedure

Caudal epidural anesthesia is an easy and inexpensive method of analgesia that is commonly used in cattle. A high caudal epidural at the sacrococcygeal space (S5–Co1) desensitizes sacral nerves S2, S3, S4, and S5. The low caudal epidural at first coccygeal space (Co1–Co2) desensitizes sacral nerves S3, S4, and S5; as the anesthetic dose increases, nerves cranial to S2 may also become affected. The hair should be clipped and the skin scrubbed and disinfected (done with alcohol). Standing alongside the cow, the tail should be moved up and down to locate the fossa between the last sacral vertebra and the first coccygeal vertebra or between the first and second coccygeal vertebrae.

An 18-gauge 3.8-cm needle (with no syringe attached) is directed perpendicular to the skin surface. There are two techniques that can be done at this point to ensure proper placement of anesthetic.

- 1) The hanging drop technique: Once the skin is penetrated, place a drop of local anesthetic solution in the hub of the needle. The needle should then be advanced slowly until the anesthetic solution is drawn into the epidural space by negative pressure. The syringe may then be attached to the needle and anesthetic solution slowly injected with no resistance.
- 2) The lack of resistance technique- An air bubble is drawn up into the syringe after the anesthetic. This allows us to feel the change of resistance once we pierce the flavum and enter the intervertebral area of interest to administer the anesthetic. (Be careful not to inject the air bubble into the area)

Anesthetic medication used included **Lidocaine 2%** which is a local anesthetic. The dose used was 0.2mg/kg. Our calf was approximately 100kg.

Calculations:

- Dose (0.2mg/kg) x Weight (100kg) divided by the Concentration (20mg/ml) = 1ml
(NB/ 2mls were used in the lab as a precaution)
- *Toxic Dose* of lidocaine is 10mg/kg (5-6mg in small ruminants)
10mg/kg x 100kg divided by 20mg/ml = 50mls

Reference link:

https://mylearning.sta.uwi.edu/pluginfile.php/769037/mod_folder/content/0/Local%20and%20Regional%20Anesthesia%20in%20Cattle%20-%20VET%20CLINICS%20NA.pdf?forcedownload=1