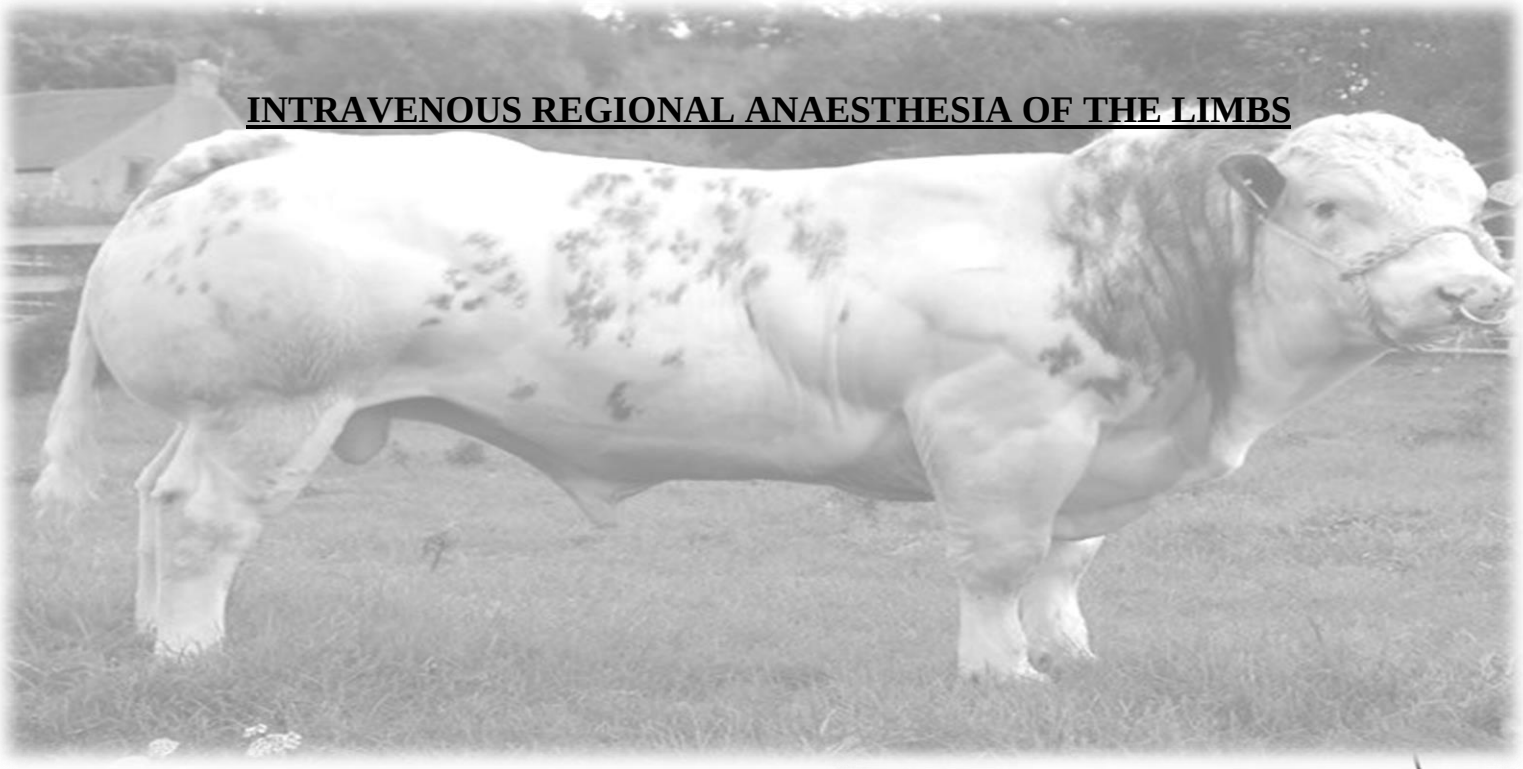
INTRAVENOUS REGIONAL ANAESTHESIA OF THE LIMBS

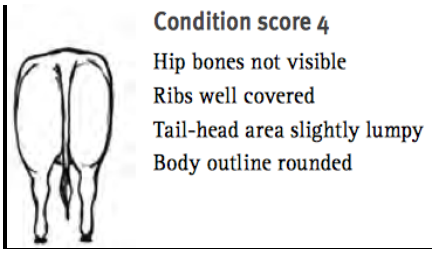


Signalment

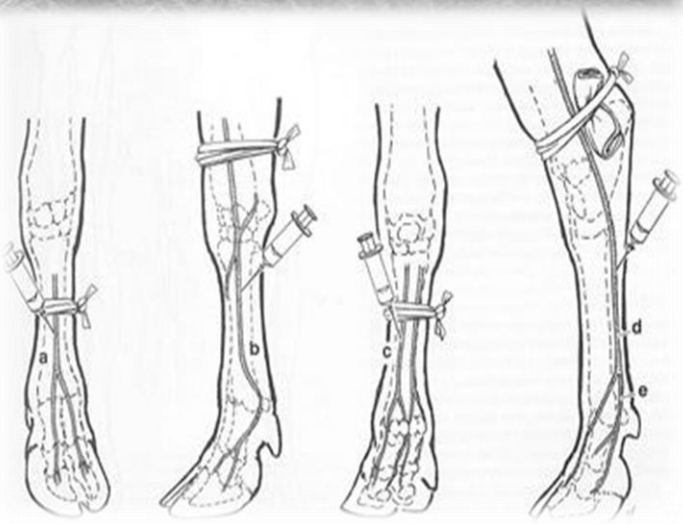
Holstein mixed breed cow, weighing 674kg

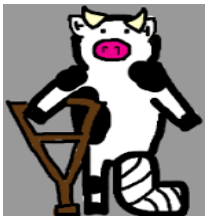
Physical Examination

Distance exam: the cow was bright, alert and responsive, it body condition was a 4 out of 5.



Hands on Physical: The animal had no lesions on its body with exception to its brand number (410). It appeared to be drinking and ruminating fine. Its feaces was of good consistency not too runny and not too hard. The animal rumen contraction was rated at 2 contractions per min, and it had a heart rate of 52 bpm. Breathing was normal during the physical.





Anaesthesia and Monitoring

Before the intravenous regional anaesthetics was administered into the limbs of the animal. The animal was restraint both mechanically using a stanchion and chemically using Ketamine-xylazine

Drugs Used, Route & Dosage

Drug: Lidocaine 2% solution.
Dosage: 10cc of 2% Lidocaine was used to carry out the procedure in the lab. This falls in the recommended dose of 5 to 10 cc of 2% Lidocaine seen in most literature.
Route of Administration: Intravenous

Procedure: Type & Use

IV Regional Analgesia of the limb also known as the **Biers block.**

- Use for: Amputation of digits.
- Removal of pain full granulomas of the skin.

Methods for carrying out procedure

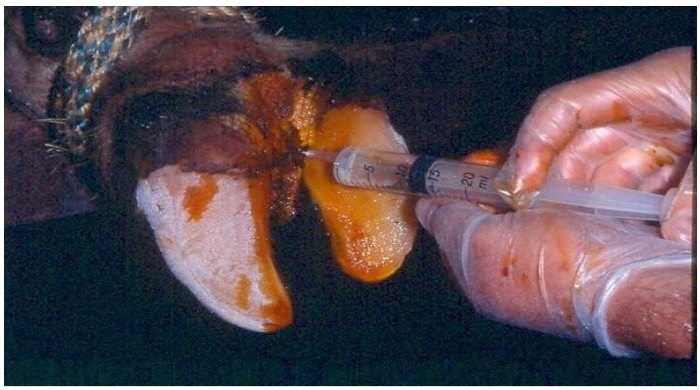
1. Proper restraint of animal.
2. Clip and disinfect the area of the limb (fore or hind) where the tourniquet will be placed.
3. Identify which veins will be used, these include;

Forelimb- lateral digital vein immediately proximal to the

intramuscular in the region of the gluteals. Before administration of the sedative the animal's heart rate was taken and it was monitored after the administration of the drug. This was to ensure there were no extremely changes in the animal's heart rate, due to the fact that a side effect of xylazine which is cardiovascular depression (bradycardia). Other signs that were monitored for was excessive salivation which could be brought on by the effects of the Ketamine. The		• Removal of interdigital hyperplastic lesions. • For treatment of painful and severe infections of foot. Eg. Hoof rot. • To effectively perform procedures such as hoof trimming in cattle.	fetlock, the radial vein or median palmar digital vein. **Hindlimb-** lateral branch of the lateral saphenous vein, lateral plantar vein, or the lateral plantar digital vein. 4. A tourniquet is then applied tightly proximal metatarsal or proximal metacarpal region or above the hock or carpus of the limb to occlude the blood vessels, minimize the back flow of blood and to make the vein more prominent. 5. A 18g 1 inch needle/ or a butterfly is then inserted into the vein. 6. Insert the syringe onto the needle and aspirate blood to confirm that the needle is properly placed into vein. 7. Carefully administer the local anaesthetic solution (5-10cc of 2% lidocaine) into the vein. 8. To prevent haematoma formation the needle should be withdrawn and the injection site massaged for a few seconds. 9. After 10 minutes check if full analgesia has been achieved by performing needle pricks around the area.

Complications/Limitations

1. Haematoma formation can occur at the the site of injection
2. If there is any sudden movement of the foot of the animal (kicking) while administering the local anaesthetic solution the needle can be displaced from the vein.
3. Improperly placed or loosely placed tourniquet will not effectively produce full analgesia.
4. When carrying out a procedure involving the digits intravenous regional anaesthetics does not always result in full analgesia of the skin between the digits. Therefore an additional 5ml of 2% Lidocaine into the interdigital space is recommended.
5. For intravenous regional anaesthesia of a limb, only preparations without adrenaline should be used, with exception to amputations.



Local anaesthesia of the foot of a cow: injecting into the interdigital space. This may be required if the interdigital area is not fully desensitised with intravenous regional anaesthesia.

Withdrawal Time

24 hours for meat and 24-36 hours for milk.