*Case 1 castration*

*\*4 month old goat kid living on pasture*

**Preoperative measures**

**Indications for castration**

* Recommended to alter sexual or aggressive behavior of the animal
* Considered when sexes are mixed in the pens to prevent any unwanted breeding
* If they are to be kept for meat for longer than 4 months- to promote weight gain
* Kept as pets
* Used as pack animals or harness goats
* Animal is easier to restrain and handle in the presence of females

**History**

* No history was obtained for this kid at the time of the procedure, but it is very important in routine operations that this is obtained. Some of the relevant information that is included in this is:
  + Animal’s age, tag number and parity
  + Present or past illnesses
  + Vaccination history (if up to date or not) \*vaccination against tetanus necessary
  + Current diet plan
  + Any current or previous medication used
  + Prior medical and surgical procedures underwent
  + Any recent goat deaths on the farming operation

**Signalment**

* ID#: 82
* Nickname: -
* Age: 4 month old kid
* Breed: Saanen
* BCS: 3/5
* Weight: 62 pounds (28kg)

**Physical exam**

* A physical exam is always preceded by a distance exam. The environment is observed and assessed for factors such as cleanliness, proper and adequate bedding, airflow and presence of other pen mates. The animal’s appearance is then assessed by its ability to stand, gait and posture, any visible abnormalities (congenital eg. Cleft palate), signs of fecal staining and the respiration rate. After this, a 5-station physical exam is done, and all parameters are observed to check if they are within the normal ranges and systemically healthy. Ensure that both testicles have descended.

**Owner compliance**

* Inform the owner that a variable amount of time (3 to 6 weeks) is required for complete regression/atrophy of the testicle

**Equipment**

* Rectal thermometer
* Stethoscope
* Standing chute
* Knee bracket
* Sterile gloves
* Alcohol swabs
* Emasculatome (Burdizzo)

**Restraint and safety**

* Goat should remain in a standing chute with adequate tail restraint and application of a knee backet.
* Wash and clean your hands and surgical equipment using an antiseptic solution eg. Hibitane®.

**Calculations of drugs used**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Drug | Dose rate | Conc. | Volume to be given | Indications | contraindications | Withdrawal time |
| Tetanus antitoxin |  |  | 1ml | Tetanus prophylaxis |  |  |
| Penstrep 400 | 20,000 IU/kg | 200,000IU/ml | Dose x weight/concentration  =2.8ml |  |  |  |
| Lidocaine 2% | 5mg/kg | 20mg/ml | Dose x weight/concentration  =5mg/kg x 28kg / 20mg/ml  = 7ml | Local anesthetic | Used with caution in patients with CHF, liver failure, shock, severe respiratory disease. |  |
| Butorphanol | 0.1mg/kg | 10mg/ml | Dose x weight/concentration  =0.1mg/kg x 28kg / 10mg/ml  =0.28ml 🡪 3ml | Analgesia | Should not be used if animal has a known hypersensitivity to the drug | 2 days |

\*For lidocaine- Inject 3ml in the scrotal sac and massage. The 2 spermatic cord sites are also injected (2ml each) to distribute the local anesthetic efficiently.

**Intraoperative measures**

**Aim**

* To crush the vasculature of the spermatic cord to result in avascular necrosis and atrophy both testes within the scrotal sac.

**Complications**

* Testicular survival
* Scrotal sloughing
* Scrotal swelling

**Technique-**

**Closed/bloodless castration**

The Burdizzo (emasculatome)  crushes the spermatic cord and stops the blood supply to the testes. Without this blood supply, the testicles atrophy (shrivel up) but the scrotum remains intact. It is a bloodless technique and less painful than surgical castration.

 \*The procedure must be planned, taking into account the age of the kid, weather, staff and available facilities to minimize stress.



**STEPS:**

1. As you work between the rear legs of the kid, locate the testicles.
2. Apply the instrument to only one spermatic cord at a time. For the right side, locate and feel for the spermatic cord between your fingers.
3. Force the spermatic cord to the lateral side of the scrotum.
4. Place the jaws of the emasculatome to the spermatic cord dorsal to all testicular tissue. \* Beware and avoid inclusion of the flexure of the penis and never involve the entire scrotum in the instrument.
5. Close the emasculatome completely (for 15-20 seconds) and a crush will be heard.
6. Repeat the procedure on the opposite testicle just 1 cm below the previous crushed side.
7. Both crush sites should not correspond.

🡪Note that it is not crushed straight across so that the major blood supply to the scrotum remains from the median ruffae. The scrotum will start to shrivel and dry up within 2 weeks as the blood supply has been cut off.

**Post-operative measures**

Since this is a bloodless castration, there is elimination of any potential for infection. Each goat must be examined afterwards - if a break in the skin apply a topical disinfectant. After castration, the animal should be observed for any unwanted abnormalities eg. Discomfort, decreased appetite, excess lethargy or signs of excess swelling. The kid should be kept in a confined area for approximately 7 days, which should be clean and help prevent the kid from inflicting any injury on itself.