II-REGIONAL ANALGESIA

1-PERINEURAL ANALGESIA

A- Regional analgesia of the head: -

The Horse

1-Infra-Orbital Nerve Block  2-Mental Nerve Block  3-Mandibular Nerve Block  4-Supra-Orbital Block  5-Retrobulbar Block  6-Auriculopalpebral Nerve Block

The Ox

1-Cornual Nerve Block  2-Auriculopalpebral Nerve Block

The Goat

1-Nerve Block For Dehorning

The Dog

1-Infra-Orbital Nerve  2-Mandibular Nerve  3-Auriculopalpebral Nerve Block

B-Regional analgesia of the limbs: -

The Horse

1-Planter Or Volar Nerve Block  2-Median Nerve Block

3-Complete Desensitization Of The Limb Below The Carpus

4-Posterior Tibial And Anterior Tibial (Deep Peroneal) Nerves Block

The Ox

1-Nerve Block In The Forelimb  2-Nerve Block Of The Hind Limb

Method I

Method II

The Dog

1-Brachial plexus block  2-Infiltration of digital nerves
C-Regional analgesia about the trunk

The Horse
1- Analgesia For Castration

The Ox
1- Paravertibral  2- Pudic Or Internal Pudendal  3- Local Analgesia For Castration

The Small Ruminants
1- Paravertibral  2- Pudendal Nerve Block  3- Local Analgesia For Castration

The Dog
1- Paravertibral

II- REGIONAL ANALGESIA

Advantages: -
1- The amount of used drug is relatively lesser than local infiltration
2- The technique requires no expensive equipments
3- The analgesic area is large enough and there is no need to increase the size of analgesic field during surgery like with local analgesia.
4- Anatomical features of the surgical field don’t change as the drug is injected far from surgical field.
5- Healing is not delayed, as the drug is not injected to surgical line.
6-It can be used with or without sedation for surgery on standing animals

Disadvantages:

1-It is more complicated than local analgesia

2-It has risk of toxicity especially when the nerve is associated with blood vessels

3-General complications of epidural including fracture, infection of neural canal, etc....

1-PERINEURAL ANALGESIA

Regional Analgesia Of The Head: -

The Horse

1-Infra-Orbital Nerve Block: -

Anatomy:

It is the continuation of the maxillary division of the 5th cranial nerve. It passes through the infra-orbital canal (innervates the upper molar teeth, canine, and incisors; and their alveoli and gum), and then it emerges through the infra-orbital foramen (innervates skin of upper lip, cheek, and nostril). After it emerges from the infra orbital foramen, it is partially covered with levator nasolabialis muscle.

Sites of perineural injection:

a-After the nerve emerges from the canal:

The desensitized area will be the skin of the lip, nostril, and face up to the level of the foramen.

b-Within the canal:

This will desensitize the upper molar teeth up to the 3rd, the canine, and the incisors, and their alveoli and gum, and the skin up to the level of the medial canthus of the eye.

c-Within the pterygopalatine fossa:

This will desensitize the molar teeth up to the 6th in addition to the previously mentioned regions.
Indications:

1-Suturing of a wound at the lip or nostril

2-Trephining the facial sinus.

Dose: 5 ml

Technique

a- After the nerve emerges from the canal

The lip of the infra orbital foramen can be felt as bony ridge lying beneath the edge of the flat levator nasolabialis muscle, at a point 5 cm forwards and downwards from the anterior end of facial crest. The needle is introduced until its point can be felt beneath the bony lip of the foramen.

b- Within the canal

The same as mentioned but the needle should pass 2.5 cm up the canal.

c- Within the pterygopalatine fossa

The needle is inserted at a point on the side of the face opposite to the lateral canthus, inferior to the facial crest, and above transverse facial vessels. The needle is advanced medially, slightly anteriorly to pass ventral to the border of zygomatic process and drop into the pterygopalatine fossa just posterior to maxillary tuberosity. The needle should be pushed until it strikes the perpendicular portion of palatine bone in the region of maxillary foramen at a depth of 7 cm. Generally it is a dangerous procedure.

2-Mental Nerve Block: -

Anatomy:

The alveolar branch of the mandibular division of the 5th cranial nerve enters the mandibular foramen on the medial aspect of the vertical ramus of the mandible under the medial pterygoid muscle. It traverses the mandibular canal and giving off dental and alveolar branches then it emerges from the mental foramen and called mental nerve. The innervation of the incisors and canines arises from the trunk nerve 3-5 cm before it emerges from the mental foramen.

Technique:

The mental foramen, through which the mental nerve emerges, lies on the lateral aspect of the ramus in the middle of the inter-dental space and covered with the tendon of depressor labii inferioris muscle.
Injection of the nerve at this point desensitizes the lower lip only, while advancing the needle 3-5 cm into the canal will desensitize the incisors and canine too.

Indication:

Suturing of wounds of the lower lip