

HANDLING/SEDATION/ANAESTHESIA

A thoughtful and considerate approach will often enable simple examination and treatment procedures to be undertaken without the need to resort to sedatives. An appreciation of “good practice” in donkey handling will not only benefit veterinary surgeons but also farriers and owners attempting to socialize fractious individuals.

Patience, a quiet voice and a calm demeanor are essential. An arm around the neck and a hand over the dorsal nose usually brings an errant donkey to a halt, enabling a standard adjustable headcollar to be fitted. Tied up or held by an assistant the fitting of a headcollar has an appreciable composing influence. The assistant can then usefully distract the patient’s attention with the odd “polo”, biscuit, treat etc. The lifting of a leg is somewhat unreliable; many donkeys are adept at standing on two legs and accurately directing kicks. The firmly but carefully held ear maybe needed in a minority of instances, however the application of a twitch or twisting of the ear is never warranted. Applying a twitch to the lip would appear to have little effect in marked contrast to other equines.

One “golden rule” of donkey handling is to keep companions together at all times irrespective of the species of the companion. At the Donkey Sanctuary it is standard practice to maintain this contact at all times, even to the point of anesthetic induction. Failure to appreciate the significance of these bonds can induce significant stress and a variable reaction to any sedative administered.

The standard local anaesthetic and regional nerve blocking techniques used in other areas of veterinary surgery can be usefully employed in the donkey. Alone or combined with sedation they often avoid the need for general anaesthesia. The abaxial sesamoid nerve block is especially helpful in exploring and treating cases of pedal sepsis.

Sedation

Once restrained with a headcollar intravenous sedation can be reliably achieved by jugular venepuncture. The dose of sedative agent used will depend on a number of factors including: temperament, age, condition, health status, anticipated duration and potential pain level of the procedure.

Romifidine (“Sedivet” 10mg/ml romifidine – 0.1- 0.4 ml per 50 kg I/V) would appear to have a similar effect to detomidine without inducing the same degree of inco-ordination/ataxia. A longer post injection delay maybe appropriate for full benefit to be achieved. Combined with butorphanol (“Torbugesic” 10mg/ml butorphanol 0.1ml/50kg I/V) both its sedative and analgesic effects are enhanced. For the average donkey (160kg-180kg) a dose of 0.4 – 0.6ml Sedivet and 0.4ml Torbugesic is often sufficient for most procedures.

Detomidine (“Domosedan” 10 mg/ml detomidine hydrochloride – 0.05ml- 0.2 ml per 50 kg I/V or I/M) is useful despite the inco-ordination often seen. The volume required for smaller donkeys can be a practical problem. Attention should be given to the recognized contraindications and care exercised with elderly patients. Combination with *butorphanol* (“Torbugesic” 10 mg/ml butorphanol 0.1 ml/50 kg I/V) enhances its effect whilst providing post treatment analgesia. Maximum benefit is gained from sedation if a minimum period of 5 minutes post administration is allowed in a quiet, undisturbed environment.

Xylazine ("Rompun Dry Substance" 0.5ml - 1ml 5% solution per 50 kg) give by slow I/V injection is useful for relatively minor procedures.

Diazepam (0.2mg/kg) is particularly useful in foals e.g. for limb cast application. It may also be used in adults to ease the passage of stomach tubes where Sedivet might discourage swallowing. Diazepam may also temporarily act as an appetite stimulant.

Experience suggests that *acetylpromazine* at standard doses is ineffective in fractious individuals and may cause penile complications in both geldings and jacks.

The provision of tetanus prophylaxis should be considered after any surgery or wound treatment, as a history of vaccination is often unreliable. Similarly, consideration should be given to post treatment analgesia.

Phenylbutazone is generally well tolerated in the donkey and an average individual can be maintained on a dose of 1/2g BID for extended periods without undue risk.

Field Anaesthesia

For situations where inhalation anaesthetic is not available, a number of techniques/drug regimes are described.

Successful and predictable 'field anaesthesia' can be achieved by the following protocol.

Having established that the patient is clinically fit for anaesthetic an estimate of weight can be made using a heart girth nomogram.

In calculating drug doses a generous estimation would appear to facilitate both sedation and induction. A quiet environment and ensuring that adequate time elapses post sedation will encourage adequate induction.

Pre anaesthetic fasting is to be recommended. A period of four hours is normal practice at the Donkey Sanctuary.

Acetylpromazine (ACP 10mg/ml at 0.15ml per 50kg) is given intramuscularly 30 minutes prior to sedation with *detomidine* (Domosedan 10mg at 0.1ml per 50kg) intravenously. At least 5 minutes is allowed to elapse prior to induction. Timing this interval and avoiding any unnecessary patient stimulation is worthwhile.

Personal experience suggests that the inclusion of butorphanol (Torbugesic 10mg/ml butorphanol at 0.1ml/50kg) in addition to detomidine enhances and prolongs the period of surgical anaesthesia.

Anaesthesia is then induced using *ketamine* (Vetalar 100mg/ml at 1.1ml per 50kg). Most patients will slowly subside into recumbancy over the next 30 - 120 seconds, a further minute should be allowed before any surgical stimulation is contemplated.

If muscular rigidity persists for more than one minute a bolus of *thiopentone* (1mg/kg i.e. 1ml 5% solution per 50kg) maybe given. These 'top up' doses of thiopentone can be repeated for up to 3 doses to prolong anaesthesia. Slower injection reduced the risk of subsequent apnoea and multiple doses will significantly prolong recovery.

The use of an indwelling catheter is to be strongly recommended if thiopentone use is contemplated. A soft towel should be used to protect and cover the eyes. The eyelids remain wide open and spontaneous palpebral activity is maintained under *ketamine* anaesthesia. Increased lachrymation and deliberate sighing respiration indicate that anaesthetic is lightening. Monitoring of the anal reflex will assist in assessing the

depth of anaesthesia - pinching the anal sphincter should cause closure of the sphincter, a brisk response and raising of the tail head indicate that spontaneous movement is likely.

The provision of an 'oxygen rich' environment by way of a nasal tube connected to an oxygen cylinder and flow regulator is recommended for more prolonged anaesthesia.

Despite being generally lighter than most other equids attention should be given to positioning the patient in order to minimize the risk of ischaemic muscle disease and related disorders.

To prolong field anaesthesia we have used "triple drip" combinations successfully at standard equine dose rates following induction with an α_2 agonist and ketamine. Very useful references are given below.

Theatre anaesthesia (Donkey Sanctuary)

The following drug regime has been used successfully over a number of years for a variety of procedures of up to 4 hours duration.

1. Initial pre-med.

ACP (10mg/ml) @ 0.1ml/10 kg plus Pethidine (50mg/ml) @ 0.1ml/10kg

2. Second premed after 30 minutes

Xylazine (50mg/ml) @ 0.1ml/10kg

3. Induction

Thiopentone (50mg/ml) @ 10mg/kg i.e. 2ml/10kg

4. Maintenance

Halothane (up to 8% for stabilization, and 2% - 3% for ongoing anaesthesia) and oxygen

Most average donkeys can be intubated with a size 16(21.6mm) or size 14 (18.6mm) endotracheal tube (size 12 for foals).

The Auricular artery is very convenient for catheterization and measurement of arterial B.P.

For anaesthesia of a donkey with a compromised cardiovascular state or when more muscle relaxation is advantageous, it is advisable to pre med with a low dose of ACP 0.03mg/kg or omit ACP altogether. Sedation is achieved with α_2 agonist Detomidine, Romifidine or Xylazine at the lower end of the dose ranges. Anaesthesia is then induced using guaiphenesin at 25-50mg/kg, this is infused until the donkey is ataxic, at which point a bolus of thiopentone at 5-6mg/kg, or ketamine at 2mg/kg is used.

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