

**Short communication**

**Clinical evaluation of medetomidine hydrochloride as a sedative and its reversal with atipamizole in camels**

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**Abstract**

Studies were done on six male camels suffering from different surgical ailments (lacerated nostrils, mandibular osteomyelitis developed after mandibular fracture, unilateral mandibular fracture, testicular abscess, maggot wound at punctured sole, removal of sutures after repaired ventral hernia). Medetomidine hydrochloride (6.0 µg/kg) was administered intravenously and the camels were operated for minor surgical disorders under local anaesthesia. The animals showed the signs of sedation with analgesia. The surgical intervention was carried out without any struggling and discomfort on the part of animals as well as the surgical team members. Immediately after completion of the procedures, atipamezole (30.0 µg/kg) was administered intravenously. All the animals showed uneventful recovery and the camels were on their feet and ready for ambulation within 15.5±0.67 minutes.

**Key words:** Medetomidine, atipamizole, camel.

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**Materials and methods**

Studies were done on six male camels suffering from different surgical ailments. Medetomidine hydrochloride (6.0 µg/kg) was administered intravenously through the jugular vein and the camels were operated on for minor surgical disorders under local anaesthesia, specifically lacerated nostrils, mandibular osteomyelitis developed after mandibular fracture, unilateral mandibular fracture, testicular abscess, maggot wound at punctured sole, and removal of sutures after repaired ventral hernia. Atipamezole was administered (30.0 µg/kg) into the jugular vein immediately after completion of the surgery. Behavioural changes were observed, namely spontaneous activity, weak time, down time, relaxation of tail, relaxation of lips and relaxation of neck. The anaesthetist, surgeons, assistant surgeons, helpers and owners were asked about their observations.

**Results and discussion**

The onset of effects of medetomidine was marked by a reduction in spontaneous activity of the animals. The initiation of central nervous system depressant effect of medetomidine ranged between 0:00:40 and 0:01:45 h:mm:ss, with a median time of 0:01:03 h:mm:ss. Relaxation of neck muscles after medetomidine administration in camels was marked by their inability to hold the head upright. Postural changes (down time) and analgesic effect of medetomidine preceded the drooping of head. In llamas, intra muscular administration of medetomidine at the rate of 10, 20 and 30 µg/kg induced CNS depression by 12.67±2.08, 12.33±2.52 and 6.67±1.15 minutes, respectively (Waldridge *et al.*, 1997). In sheep, medetomidine administered at 15 µg/kg IV induced sedation within two to three minutes and had a distribution half-life of 4.66 minutes (Muge *et.al.*, 1996). These

figures are quite close to the onset of CNS depression by medetomidine observed in our study. Xylazine administered intramuscularly in camels @ 0.4 mg/kg showed onset of depression in  $8.6 \pm 1.1$  minutes with analgesic effects lasting for 60 to 90 minutes (Peshin *et.al.*, 1980). Similarly, detomidine showed its effect within two to eight minutes after its intramuscular administration (50.0 µg/kg). Analgesia developed at 0:12:57±00:01:48 and remained for 0:39:50±0:08:59 h:mm:ss (Kashyap, 1994). Protrusion of the tongue with flaccidity was observed. The medicated camels did not respond to cutaneous pinpricks at abdomen or scratching of periosteum with an 18-gauge hypodermic needle after its subcutaneous insertion. Animals showed complete recovery by 0:31:01±0:02:25 h:mm:ss of atipamezole administration.

The comprehensive list of comments received after anaesthetic recovery is as follows:

**Anaesthetist:** Only owner is required for making camel to sit and finally receiving the fully conscious animal ready for ambulating. Anesthesiologist was of the view that no extra manpower is required to restraint the animal before and after the surgical procedures; however, where only sedatives are used, animals remain ataxic for quite a long period and take a longer time for complete recovery, thereby necessitating a number of helpers to handle the ataxic animal.

**Surgeons:** Good job done! The animals were completely immobilised with analgesia so that there was no pain and struggling on the part of animals. (The surgeons) could perform every manipulation to their satisfaction. We were not apprehensive about movements and of course the danger of getting hurt. Above all, the extramural operative area was quiet and free from noise due

to personnel movements. Patients were on their feet shortly after completion of operative procedure.

**Assistant surgeons:** Could approach the camel-patient more closely. Surgical desideratum was well within our reach.

**Helpers:** Our job was easy. Musclemen were not required.

**Owners:** We had heard about (a potentially) fearful situation, risk, struggling, and elaboration of arrangements for surgery on camels. It was a pleasant experience.

To conclude that qualitative assessment and anaesthetic judgment: '*Safe technique and good anaesthetic risk.*'

## References

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