Immobilisation and epidural anaesthesia in a Eurasian lynx (Lynx lynx) undergoing pelvic limb surgery

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Introduction: Handling of wild lynxes generally requires chemical immobilisation, which can be challenging for both the animal and personnel. Anaesthetic combinations and restraint techniques can be found in the literature for medical and research purposes.
Objectives: To describe the chemical immobilisation, epidural anaesthesia and anaesthetic management in a Eurasian lynx with a femur fracture.
Material and Methods: A 2 year old, 16.6kg Eurasian lynx was referred for fracture repair after exhibiting lameness of the left pelvic limb for 4 days in the wild. The animal was remotely darted using ketamine (5 $mg.kg^{-1}$) and xylazine (5 $mg.kg^{-1}$) intramuscularly to allow immobilisation and transportation to the teaching hospital. After induction, using propofol (3.5 $mg.kg^{-1}$) combined with midazolam (0.2 $mg.kg^{-1}$), and endotracheal intubation, limb radiographs confirmed a mid-diaphyseal fracture of the left femur that required open reduction and internal stabilisation. A sacrococcygeal epidural was performed before surgery using lidocaine (2 $mg.kg^{-1}$) and morphine (0.1 $mg.kg^{-1}$) to complement the xylazine-ketamine-isoflurane anaesthesia, which allowed lower end-tidal isoflurane concentration. Clinical signs were continuously monitored and included heart rate, respiratory rate, invasive blood pressure, core temperature, SpO_2 and $ETCO_2$.
Results: Apart from mild hypothermia and hypercapnia, the animal remained clinically stable. No analgesic rescues were necessary. Recovery was smooth and uneventful. The lynx showed no signs of motor weakness after surgery or undesired side-effects related to the anaesthesia.
Conclusion: The described anaesthetic protocol and neuraxial anaesthesia can be recommended for surgeries involving the pelvic limbs in lynxes, as part of a balanced anaesthesia protocol.

Keywords: Lynx anaesthesia, Lynx epidural, Lidocaine and morphine, Limb fracture.