A care report of a feline sacroiliac and coxofemoral I xation following a road traffic accident

Abstract

This article describes the nursing care provided to an elderly domestic short haired cat with a fractured pelvis following a road traffic accident. It is essential to consider the entire animal when presented with a fracture case owing to the high incidence of shock, pain and additional soft tissue injuries. Analgesia and shock therapy treatment commenced immediately and post surgery intense nursing care and physiotherapy began to allow the patient the best chance to make a full recovery.

Key words: pelvic tra ma, ph siotherap , shock, pain, rehabilitation

Veterinary investigations

The patient was admitted to the surgery for initial stabilization, radiographs and treatment for shock. He was placed in an incubator and intravenous access was immediately obtained via the cephalic vein (*Box 1*).

An infusion of Hartmann's solution (compound sodium lactate, Aqupharm No 11, Animal care Ltd, York, UK) was set up at shock rate of 90 ml/kg/hour for 1 hour and methadone (Comfortan, Eurovet Animal Health Ltd Cambridge, UK) 0.2 mg/kg administered. A blood sample was obtained which revealed a glucose level of 11.8 mmol/l (reference 3.9 to 8.3 mmol/l). All other parameters were normal. A urine sample was normal.

Radiographs revealed a bilateral sacro-iliac luxation with marked cranial displacement of the iliac wings and a right-sided cranio-dorsal hip luxation with marked displacement (*Figure 1*). Thoracic radiographs were normal.

Twenty-four hours after admission the patient was normothermic, comfortable and his mucous membranes were pale pink; 72 hours after admission his blood glucose had returned to normal. The increase in this parameter was most likely caused by stress-induced hyperglycaemia (Duncan, 1998). On the basis of these fndings and after discussion with his owners regarding di erent treatment options, his owners elected for surgical stabilization of the pelvic fracture.

Pre-surgical patient preparations

The patient was pre-medicated with acepromazine (ACP) 0.01 mg/kg. Meloxicam (Metacam, Boehringer Ingelheim, Berkshire, UK) 0.2 mg/kg subcutaneously and methadone (Comfortan) 0.1 mg/kg intramuscularly were administered to provide analgesia. Once pre-medicated the patient was placed back in his kennel to allow the drug time to reach its peak sedation e ect. He was placed on a covered heat source to help decrease the risk of potential hypothermia from lack of movement.

After 30 minutes he was taken into the preparation area of theatre where anaesthesia was induced with propofol (Vetofol, Norbrook, Co. Down, Northern Ireland) and inhalation anaesthesia was maintained after endotracheal intubation using iso uorane (Isoba, Schering-plough Animalhealth, Herts, UK). Intravenous fuid therapy was commenced on an infusion pump at a rate of 8 ml/kg/hour using Hartmann's solution (compound sodium lactate, Aqupharm No 11, Animal care Ltd, York, UK).

Intr-ing compromised by blood loss during the surgery (Daniels, 2010).

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In most cases of hindlimb surgery an epidural is routinely administered, however, in this patient an epidural anaesthesia was not undertaken because of the severe bilateral derangement of the overall sacroiliac and pelvic anatomy.

Both legs were clipped down to each hock and the clipped area was extended to include the perineal region, the proximal tail and the whole circumference of the body caudal to the mid-lumbar region.

All loose fur was vacuumed away. A non-sterile glove and non-sterile bandage were placed on each foot up to the hock to cover the area not clipped. This was done to assist in preventing strike through.

The skin was pre-scrubbed using a solution of Hibiscrub (chlorhexidine gluconate 4% w/v, Regent Medical Ltd, Manchester, UK) (*Box 2*).

The patient was then taken to theatre, positioned in lateral recumbency and placed in a thermostatically controlled warm air device (Bair hugger, Advanced Anaesthesia Specialists, Oxfordshire). He was connected to a capnograph and an indirect arterial pressure measurement (oscillometric technique) was used, which was activated to read systolic, diastolic and mean arterial pressure every 3 minutes.

The final stage of surgical skin preparation was then carried out. The patient's left side was prepared for surgery first and once complete he was turned over and the right side was then prepared in the same manner. Prior to draping the patient the surgeon placed a further sterile glove and sterile bandage over each foot to eliminate strike through.

Veterinary surgical procedure

The patient was taken to surgery where the left sacroiliac joint dislocation was reduced and stabilized using a 2.7 mm lag screw with a plain washer. The same stabilization was undertaken on the right side. The hip joint was reduced and stabilized using a capsulorrhaphy and using 2-0 polydiaxanone suture (PDS II) (Ethicon, Johnson & Johnson Medical Ltd, Scotland).

Intravenous antibiotics amoxicillin/clavulanate (Augmentin, GlaxoSmithKlein, Middlesex, UK) commenced at a dose of 20 mg/kg and were repeated 2 hours and 4 hours after the initial dose.

Peri-operative antibiotic therapy is routine in extensive orthopaedic procedures, since there is significant risk of infection around any implants used (Hotson Moore and Garden, 1999).

Post-operative radiography revealed good reduction and implant positioning (*Figure 2*).

Nursing considerations

On admission to the surgery the patient was immediately treated for shock. This included oxygen therapy, shock rate intravenous fluids for 1 hour and analgesia. He was placed in an incubator which provided him with oxygen and was also thermo controlled to warm him up from his hypothermic state. The use of the incubator allowed him to benefit from oxygen therapy and warmth while keeping him as stress free as possible.

Pain assessment

The patient was showing signs of extreme pain by vocalizing and being aggressive when ha ei being E-

patient's tail base. These patches usually take approximately 12 hours to reach therapeutic efficacy in cats (Kerr, 2007). It is therefore, important to monitor the patient's comfort levels carefully during the period of efficacy, as many animals require additional supplementation with an appropriate opioid that will not compete with the drug administered via the patch (Shales, 2008).

In this case, the patient was given methadone (Comfortan) alongside the patch until the therapeutic levels had been reached. The nurses will spend the most time with the patients and are therefore in an ideal position to comment on the patient's analgesia requirements and response to therapy. Pain is much harder to recognize in cats compared with dogs because cats often do not demonstrate pain signs as overtly as dogs (Orskov, 2010). The author used the Glasgow Composite Measure Pain Scale (Orskov, 2010) as a pain assessment score system to allow a more objective assessment of the patient; this proved beneficial especially when it came to a change of nursing staff.

Training clinical staff to recognize the signs of pain and encouraging the use of pain scales helps to improve everyone's observation skills in this area and will promote a more tailored approach to patient analgesia (Orskov, 2010).

Design of a nursing care plan

A nursing care plan was designed to provide a struc-