# Surgical Managment of Midshaft Femur Fracture by Internal Immobilization in a Jungle Cat (*Felis chaus*)

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**Abstract**

A jungle cat (*Felis chaus*) with mid shaft femur fracture revealed after radiograph image was surgically treated. Physiological examination revealed heart rate, pulse rate, respiratory rate and temperature to be 58 beat/min, 56 /min, 25 /min and 99.1$^0$ F. Ketamine and xylazine was injected intramuscularly at a dose rate of 30 and 1 mg/kg body weight respectively. Anaesthesia was maintained for 40 minutes during which the fracture was repaired with Intramedullary pinning (internal fixation). The animal was kept under post operative care with antibiotic and regular dressing. The animal after recovery was kept for soft release but escaped to the wild after.

**Introduction**

Jungle cat (*Felis chaus*) also known as reed cat or Swamp cat is a native wild cat species to Assam (Duckworth *et al*. 2008). They feed on variety of small mammals, birds, fish and domestic birds this results in conflict with human, which may cause severe injuries including fracture of bones. A Jungle Cat was rescued from Numuligarh Golaghat with left hind limb close midshaft femur fracture. In the present report surgical management of complete closed midshaft femur fracture of left hind limb by internal immobilization in an injured male jungle cat has been discussed

**Methodology**

**Case history**

Assam Forest Department handed over an injured male adult jungle cat (*Felis chaus*) from Numuligarh, Golaghat Division, Assam, India, injured resulting in complete closed midshaft fracture of femur, left hind limb and was attended at CWRC (Centre for Wildlife Rehabilitation and Conservation).

**Morphometry**

The animal weighed 1.6 Kg, with body length 36 cm and tail length 12 cm making total length 48 cm along with shoulder height of 11 cm.

**Clinical examination**

Clinical examination revealed lameness in left hind limb and shortening of limb, physical examination revealed crepitating sound at midshaft of femur (left hind limb). Radiographic imaging confirmed closed midshaft femur fracture (Beale, 2004) of left hind limb. The animal has mild dehydration with slightly pale visible mucous membrane.

**Physiological examination**

Physiological examination revealed heart rate, pulse rate, respiratory rate and temperature to be 58 beat/min, 56 /min, 25 /min and 99.1$^0$ F respectively.

**Fig 1. Pre-operative preparation**

**Fig 2. Intramedullary pinning**

**Treatment**

**Anaesthesia**

Ketamine hydrochloride and Xylazine was hand injected with 22 gauge needle intramuscularly at gluteal musculature, at dosage 30 mg/kg body weight and 1 mg/kg body weight (Arnbjerg 1979). Induction time was recorded 4 min with down time of 8 min and anaesthesia period of 42 min. After induction, animal was kept on face mask supplying oxygen @1lt per minute till the recovery period (Bojrab, 1975).

**Pre-operative preparation**

Dorsal part of thigh was prepared aseptically by clipping of the hairs and painting with povidone iodine (Fig.1)

**Operative procedure**

After aseptic preparation of the site a 2 inch incision was made to retract fracture ends. During this

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**Table 1: Size of stabilization cage and refuge den**

| Cage/Den | Length (cm) | Breath (cm) | Height (cm) |
|---|---|---|---|
| Stabilization cage | 213.36 | 106.68 | 121.92 |
| Refuge Den | 121.92 | 45.72 | 45.72 |

**Fig 3. Suturing of skin**

**Fig 4. Taking of load on limb**

period of anaesthesia the fracture was immobilized by retrograde intramedullary pin of size 0.25 mm passing (Fig. 2) through the fracture end (Jonson, 2007). The musculature and skin was closed accordingly (Fig. 3). The animal started recovering after 40 minutes, but 100% oxygen was supplied for 10minutes till proper return of reflexes to noxious stimuli occurred. The animal recovered uneventfully from anaesthesia. After the intervention the fractured part was immobilized with modified Plaster of paris bandage keeping the wound site open for regular dressing.

**Post-operative care**

Post-operatively the animal was kept under long acting antibiotic cefrtiaxone @ 20mg/kg body weight i.m. The wound was dressed with povidone iodine on alternate days (Fig. 4). The skin sutures were

**Fig 5. Under soft release process**

removed eight day post operatively. The animal started taking load on the limb 20$^{th}$ post operative day (Fig.4).

**Husbandry and Management**

The jungle cat is a terrestrial carnivore. As the size of the species is small it readily preys on porcupine, jungle fowls, rodents and primates. Under the care the animal was kept in a stabilization cage (Iron cage) having a refuge den (wooden plank). Vision impairment was provided with black colour cloth around the stabilization cage. The animal was provided with local chicken and water *ad libitum* .

**Site selection and release**

The animal was acclimatize by process of soft release (Fig. 5), but under this process it escaped to the wild.

**Result and discussion**

The surgical procedure and its anaesthetic management were found effective in management of old midshaft femur fracture. The animal recovered uneventfully after two months and was released as per protocol in to the wild.

Ketamine Hydrochloride has been a very effective anaesthesia in feline to perform major surgeries (Commons, 1970). Catalepsy has been a very common problem observed under Ketamine anaesthesia in different species but in feline, it is very rare (Akusuwa *et al*. 1972). Most popular surgical management of midshaft femur fracture is Intramedullary pinning for internal immobilization (Piermattei *et al*., 2006).

**Acknowledgement**

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**Venue:** Shivalaya Auditorium
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**Time:** 10:00 a.m.

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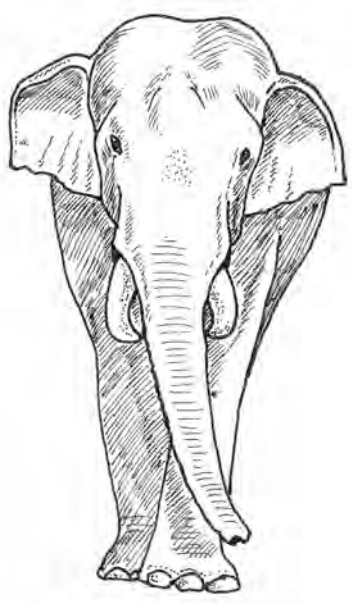

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