

## PARAPHIMOSIS IN A EURASIAN OTTER

### ACQUIRED PARAPHIMOSIS IN A EURASIAN OTTER (LUTRA LUTRA)

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Abstract: A captive seven-year-old Eurasian otter (Lutra lutra) developed an acquired paraphimosis with necrosis of the glans penis. In order to avoid additional complications, the otter is treated with the utmost urgency. The animal is anesthetized and the necrotic tissues are removed. The paraphimosis is reduced and a castration is performed. To our knowledge, it is the first time paraphimosis is described in this species.

Keywords: Eurasian otter, Lutra lutra, paraphimosis, penis, anesthesia.

## BRIEF COMMUNICATION

The otter's penis is of the vascular type with an os penis or baculum. The baculum is smooth and short. It's practically straight with a dorsal depression and a ventral fissure. Its distal part gets thinner whereas its proximal part ends in two large nodules. Its size ranges from 53 to 76 cm in the adult otter<sup>1-2</sup>.

A seven-year-old otter has developed permanent paraphimosis with necrosis of the glans penis. He looked healthy otherwise. He was sharing an enclosure with a 2.5 year-old female. Animal keepers have observed the pair mating repeatedly for several days.

The otter was trapped in a wooden artificial holt and strongly squeezed with a wire netting down the box in order to be immobilized. The animal was anesthetized with an intramuscular injection (in the thigh) with a mixture of ketamine hydrochloride 10mg/kg (Ketamine 1000®, Virbac, B.P. 447, 06515 Carros Cedex, France) and xylazine 1mg/kg (Paxman®, Virbac, B.P. 447, 06515 Carros, France) for clinical examination. He was in good state and presented an age-related sclerosis of the crystalline on both eyes. A blood sample was collected and hematological parameters analyzed. The values showed no abnormalities and were in agreement with those reported in the literature<sup>5</sup>. No biochemical parameters were measured. The penis was seriously congested and strangulated at its base (Fig. 1). The glans penis was severely necrotic. Therefore we have decided to treat him with the utmost urgency.

The otter was put on continuous drip using ringer's lactate and a tube was inserted into the trachea. He was monitored with an apalert sensor. Intravenous injections with marbofloxacin 5mg/kg (Marbocyl® FD, Vetoquinol, 70204 Lure Cedex, France), butorphanol 0.2mg/kg (Torbugesic®, Fort Dodge, 37204 Tours Cedex 3, France) and meloxicam 0.2mg/kg (Metacam®, Boehringer Ingelheim, 51100 Reims, France) were given. The surgery site was shaved with electric clippers and disinfected respectively with iodine povidone soap and solution (Vetedine® soap and solution, Vetoquinol, 70204 Lure Cedex, France).

Firstly, the necrotic tissues were delicately removed. We paid attention not to injure the urinary meatus in order to avoid future fibrosis. The healthy tissue's edge was cauterized. The penis and foreskin were abundantly flushed out using iodine povidone soap (Vetedine® soap, Vetoquinol, 70204 Lure Cedex, France).

Secondly, the penis was decongested with cold water during 10 minutes and the paraphimosis was reduced by gentle manipulations with much difficulty. A fast-absorbing purse-string suture was placed on the prepuce (Vicryl Rapide® dec. 3, Janssen-Cilag, 92787 Issy-Les-Moulineaux Cedex 9, France) to keep the penis covered. A 2mm orifice allowed micturition (Fig. 2).

Finally, in order to prevent any deleterious consequences of erection or potential genital tumors which caused 15% of all male mortality in the breeding centre in 15 years, we have decided to castrate him as well. The testicles were pushed forward under the skin and removed. The scrotum was preserved. Absorbable sutures were used on the spermatic cords, vessels and subcutaneous tissue (Dexon® dec. 3,

Vetoquinol, 70204 Lure Cedex, France) and the skin (Vicryl Rapide® dec. 3, Janssen-Cilag, 92787 Issy-Les-Moulineaux Cedex 9, France).

A long acting antibiotic subcutaneous injection with cefovecin 8mg/kg (Convenia®, Pfizer, 75668 Paris Cedex 14, France) was given before the otter was fully awake. He was put back into the holt and kept warm. After he was awakened, we transported him to a small enclosure. This enclosure was located on the other side of the breeding center, away from the females' enclosures in order to avoid any sexual excitement. It was equipped with a tank of fresh water renewed daily. Two days after the surgery, the animal showed obvious fever and pain. He didn't eat well. The scrotum was edematous. Anti-inflammatory (prednisolon 1mg/kg - Dermipred®10, Sogeval, B.P. 2227, 53022 Laval Cedex, France) and diuretic drugs (furosemid 8mg/kg - Furozenol®40, Vetoquinol, 70204 Lure Cedex, France) were administrated orally during five days. Ten days after the surgery the purse-string suture was absorbed and the penis remains covered. No secondary bacterial infection had arisen. Three weeks later the otter had completely recovered and was placed in a larger enclosure.

Paraphimosis is an affection where the prepuce does no longer cover the penis. Causes may be congenital because of a restricted orifice or a short foreskin, or acquired due to wounds, infections, tumors or priapism<sup>3</sup>. In our case, the problem was probably due to a bite wound by the female sharing the enclosure. The animal keepers had often witnessed violent aggressions several days before the paraphimosis appeared. The pain must have caused permanent erection which has resulted in the necrosis of the glans penis. In otters, bites from other otters cause most wounds on the face, tail, feet and genital area<sup>4,6</sup>. Most severe bite wounds must be quickly treated under anesthesia otherwise they usually lead to septicemia and death. Here, the necrosis was limited and superficial, which allowed us to preserve the penis. Much severe injuries such as gangrene and fracture of the baculum require partial or total amputation of the penis. Such disabling surgery would be risky in a captive wild animal because postoperative cares are most of the time impossible and complications risk is very high.

As far as we know it is the first time that paraphimosis is described in a Eurasian otter. The treatment was rather challenging because the animal was old, wild and the necrosis severe. The main difficulty was to avoid postoperative infection and others complications which would have meant other stressful captures and perhaps compromise the survival of the animal. However, the semi-aquatic way of life of this species has been greatly helpful. Indeed, the otter automatically cleaned the surgery site every day by simply taking regular baths. The use of long acting and palatable drugs, and fast-absorbing sutures was very appropriate to this particular case.

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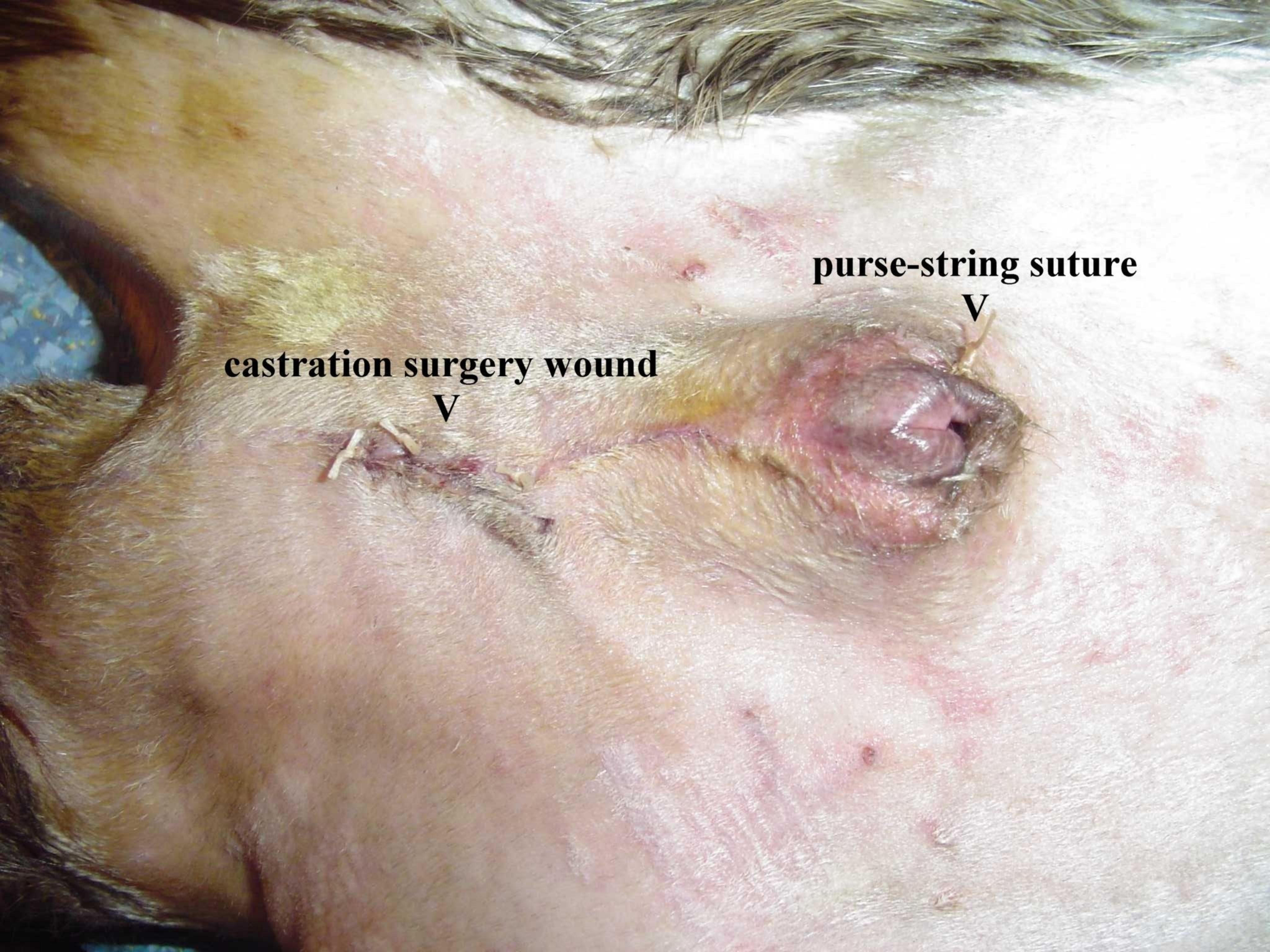
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## CAPTIONS

Figure 1: The penis is congested and strangulated.

Figure 2: A purse-string suture is placed on the prepuce to keep the penis covered and the animal is castrated.





**castration surgery wound**

**V**

**purse-string suture**

**V**