Priapism in Dogs

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Priapism is a persistent penile erection lasting longer than 4 hours, without sexual stimulation. Priapism is categorized as either nonischemic (arterial, high flow) or ischemic (veno-occlusive, low flow). Ischemic priapism is considered an emergency in people. Reports of priapism in dogs are uncommon. This report describes 3 dogs with priapism; the first was considered idiopathic, the second was due to acute disc extrusion and subsequent T12-T13 hemilaminectomy, and the third was secondary to a lumbar meningomyelocoele. All 3 cases were suspected to be nonischemic priapism. The pathophysiology of the canine erection and a review of priapism in dogs and cats are discussed. Distinguishing ischemic versus nonischemic priapism and identifying and treating the underlying cause are important. Aspiration to obtain blood gas analysis may help classify the priapism and may provide pain relief. Ultrasonography aids in evaluation for vascular abnormalities and identifying etiology. If determined to be ischemic, then aspiration with the patient under sedation or anesthesia with or without irrigation should be done. Intracavernosal injections of phenylephrine and lubrication of the exposed penis are also recommended. If intracavernosal drainage and injections are not successful, or significant tissue damage has occurred, then penile amputation and perineal urethrostomy may become necessary. Systemic therapy could be considered if the priapism is not considered an emergency, and if intracavernous injections or surgical treatment are declined.

Keywords: priapism, paraphimosis, neurology, meningomyelocoele, hemilaminectomy, intervertebral disc disease, dogs, cats

Priapism is a persistent penile erection lasting longer than 4 hours, without sexual stimulation.[1,2] Priapism can be confused with paraphimosis. Paraphimosis occurs when the nonerect penis cannot be ensheathed in the prepuce.[3,4] Although the penis is not erect, it may be edematous from extrusion. Paraphimosis may result from too small of a preputial orifice, inadequate length of the prepuce, weakened preputial muscles, or trauma (Fig 1).[4]

Priapism in people is categorized as either nonischemic (arterial, high flow) or ischemic (veno-occlusive, low flow). Nonischemic priapism, caused by increased arterial inflow through the corpus cavernosa, is often caused by trauma, but may also be the result of vasoactive drugs and neurological conditions. Ischemic priapism, caused by venous congestion to the penis and enhanced blood viscosity, is often associated with sickle cell disease, hematological dyscrasias, hemodialysis, parenteral nutrition, heparin therapy, vasoactive drugs, neoplasia, and neurological conditions such as spinal cord injury and anesthesia.[1,2] Stuttering priapism is a subset of ischemic priapism and has been described as a pattern of recurrent events with intermittent periods of tumescence. Stuttering priapism typically lasts less than 3 hours. Clinically ischemic priapism is often painful, whereas nonischemic priapism is not.[1] Few reports of priapism can be found in dogs[3,5-9] and cats.[7,10,11] This article will present 3 cases of priapism in dogs and will review the literature regarding priapism in dogs and cats.

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Case Reports

Case 1

A 9-year-old male castrated Labrador Retriever presented for persistent erection of 4 to 5 weeks' duration. Dysuria and licking at the prepuce were initially apparent to the owner. The referring DVM catheterized, emptied the bladder, and subsequently castrated the dog without apparent complication. He was placed on amoxicillin, ciprofloxacin, and trimethoprim sulfa post castration. The dog had also been receiving meloxicam for right elbow osteoarthritis. The dysuria resolved; however, priapism persisted. On examination, the bulbus glandis was firm, swollen, and nonpainful; the penis had a slightly reddened tip. Complete blood count, serum chemistry, urinalysis, and abdominal radiographs were unremarkable. Abdominal and penile ultrasound indicated engorgement of the corpus cavernosum and corpus spongiosum (Fig 2). No cause for the priapism was identified. A neurologic consultation was obtained, and on examination a thickened right elbow and a mild to moderate right thoracic limb lameness were present. Conscious proprioception was de-

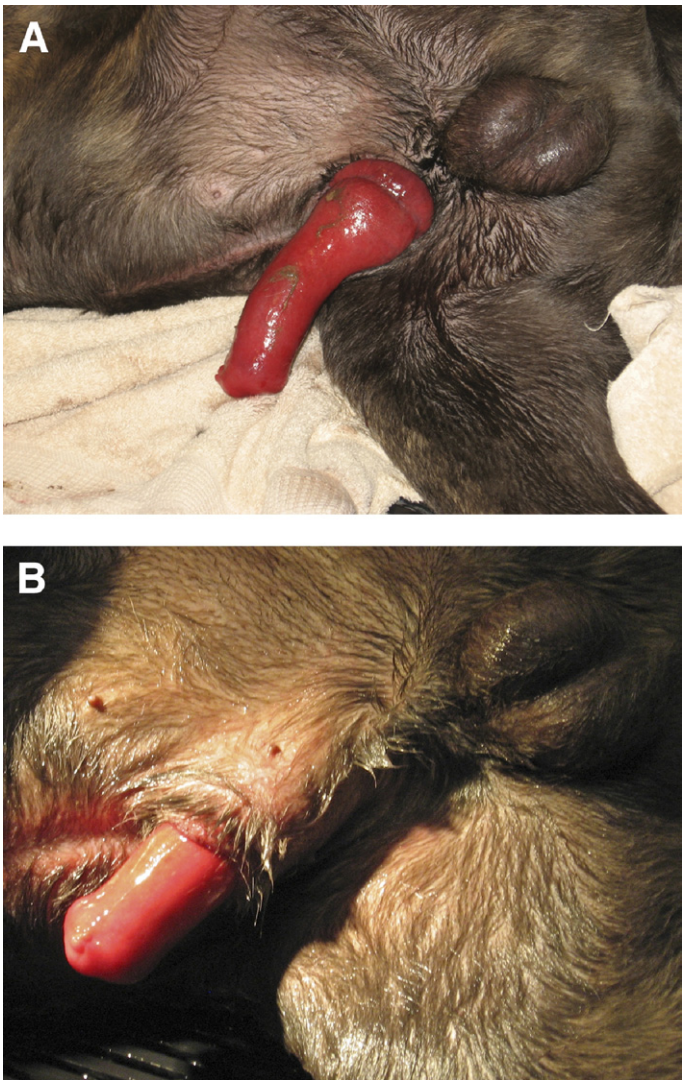

Figure 1. (A) Paraphimosis in an 11 month Cane Corso Mastiff. The penis is markedly swollen and can't be ensheathed in the prepuce. (B) After initial treatment the penis is still markedly swollen and is still unable to be completely ensheathed within the prepuce.

creased in both pelvic limbs, but was more delayed on the left. Neuroanatomic localization was considered to be a very mild T3-L3 myelopathy and was of questionable clinical significance. Pseudophedrine was administered at 0.86 mg/kg orally twice per day and was later increased to 1.72 mg/kg orally twice per day. Six weeks after starting pseudophedrine therapy, the penis was almost normal. The pseudophedrine was tapered by 25% every 4 days. Priapism resolved and did not return.

Case 2

A 7-year-old male castrated Dachshund presented for acute onset of inability to walk. On examination, the dog was nonambulatory with severe paraparesis and appeared to be in pain. A grade II/VI basilar murmur was ausculted. The neuroanatomic localization was a T3-L3 myelopathy. Complete blood count and serum chemistry were unremarkable. Thoracic radiographs indicated mild cardiomegaly. Echocardiogram indicated mild myxomatous degeneration of the mitral valve. The dog was placed on a fentanyl constant rate infusion (2 μg/kg/h) for pain control. He was premedicated with ace promazine 0.02 mg/kg subcutaneously (SQ), hydromorphone 0.05 mg/kg SQ, and atropine 0.02 mg/kg SQ. Anesthesia was induced with propofol 0.3 mg/kg intravenously and diazepam 0.25 mg/kg intravenously, and maintained via a propofol infusion and oxygen. Magnetic resonance imaging of the thoracolumbar spine indicated T12-T13 disc herniation and edema within the spinal cord at T12-T13. Mild disc protrusion was also evident at L2-L3 and L3-L4. Anesthesia was switched from propofol to isoflurane and oxygen,

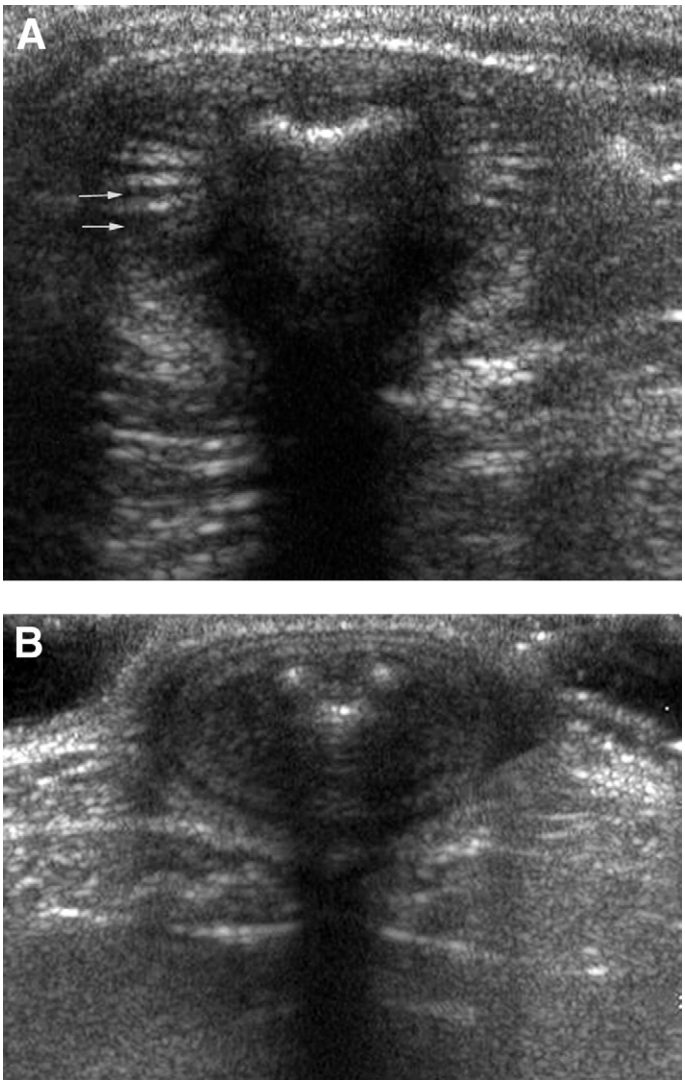

Figure 2. (A) Transverse ultrasound image of priapism in case 1. Note the engorged vessels in the corpus cavernosum indicated by the arrows. (B) Transverse ultrasound image of a normal nonerect canine penis. Ultrasound images courtesy of Tomas Baker.