

Severe peritonitis following a scrotal injury in a Thoroughbred stallion

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A 562 kg, five-year-old, Thoroughbred stallion was presented on January 1st, 2018 with a four-day history of lameness, wounds on three legs and a scrotal injury. On presentation, there was a 7.5 x 9 cm open wound on the lateral aspect of the left hock associated with swelling and cellulitis that extended to the stifle. There was a 13 cm laceration in the middle of the scrotum with the right vaginal tunic of the testis exposed. The stallion was sedated, and the scrotal wound edges were injected with lidocaine, trimmed, and sutured at the caudal end with the cranial aspect left open for drainage. He was administered ceftiofur (2 g IM, SID) and phenylbutazone (2 g PO BID) for five days. Over the next few days the stallion developed ventral edema, which progressed significantly over time, extending from his girth area to the scrotum and prepuce. On January 8th, 2018 at a recheck examination, the history included that the stallion was colicky and was believed to have stranguria. A CBC and serum chemistry were performed. The most remarkable findings included a hematocrit of 68.9% (32-53 %), urea of 14.7 mmol/L (3.6 – 8.9 mmol/L) and creatinine of 224 µmol/L (71 – 194 µmol/L). Due to dehydration and azotemia he was administered intravenous fluids, penicillin G potassium (22,000 IU/kg IV BID), gentamicin (3.3 mg/kg IV BID) and was referred to the Western College of Veterinary Medicine. On arrival the stallion was recumbent with severe signs of pain and discomfort. On physical examination, his CRT was > 2.5 sec, there was a toxic line present in his oral mucus membranes and had marked bilateral congestion of the conjunctiva. The stallion's heart rate was 70 bpm, the PCV was 74%, and the abdominal fluid lactate level was 17.4 mmol/L (0.4 – 1.2 mmol/L). A venous blood gas was performed: lactate was 15.5 mmol/L (1.11 – 1.78 mmol/L), pH 7.127 (7.32 – 7.44), PCO₂ 54.9 mm Hg (38 – 46 mm Hg), pO₂ 36.4 mm Hg (40 mm Hg), HCO₃ 17.6 mmol/L (20 – 28 mmol/L) and BE -11.8 mmol/L (0±3 mmol/L). On ultrasound examination a large amount of free fluid in the abdomen was identified, which had a dark-orange appearance upon abdominocentesis. The problem list included: septic cellulitis, peritonitis, colic, dehydration and shock. Despite serial administration of xylazine, detomidine and butorphanol, the stallion was still severely painful. Euthanasia was performed due to a poor prognosis. On necropsy, the findings included chronic, severe, diffuse necrotic dermatitis of the scrotum with edema and hemorrhage in the surrounding tissues; acute and severe fibrino-hemorrhagic peritonitis with approximately 25 L of dark, yellow to orange fluid in the abdominal cavity, and mild-acute pyelonephritis of the left kidney. The initial injury into the scrotum may have caused the peritonitis by an ascending infection from the necrotic dermatitis of the scrotal skin or from an undetected penetrating injury into the abdomen. This report describes the potential complications that may arise with severe scrotal injuries, which can dramatically decrease the reproductive performance of a stallion and may be life-threatening.

Keywords: Scrotal injury, hematocrit, lactate, fibrino-hemorrhagic peritonitis