

Short Communications

Hydrallantois in a recipient mare

C. R. Byrne Elliott, A. Mitchell

HYDRALLANTOIS is a rare condition of the mare, where an excessive amount of fluid accumulates in the allantoic compartment. Normal volumes of allantoic fluid vary between 8 and 18 litres, with more than 25 litres being considered abnormal (Arthur 1969). Hydrallantois develops in the last trimester of gestation, usually in multiparous mares between the ages of 5 and 21, and is understood to occur due to placental pathology (Blanchard and others 1987). Clinical signs include acute abdominal distension, dyspnoea, inappetence, stiff gait and colic (Frazer 2010, Brinsko 2011, Govaere and others 2012). There appears to be no breed predilection (Blanchard and others 1987, Govaere and others 2012). Drainage of the allantoic fluid and induction of parturition is the standard treatment, as continued abdominal enlargement increases the likelihood of prepubic tendon and uterine rupture (Brinsko 2011). Prognosis for foals is poor, as most are born dead or extremely weak, and despite intensive care, usually do not survive, or are euthanased (Frazer 2010, Govaere and others 2012). Prognosis for mares is good, provided appropriate supportive fluid therapy is instituted to prevent and manage hypovolemic shock (Frazer and others 1997, Christensen and others 2006, Govaere and others 2012). To the authors' knowledge, this short communication describes the first reported case of hydrallantois in an embryo-transfer recipient mare.

A 12-year-old multiparous mare of Argentine polo horse breeding, presented with a three-day history of acute abdominal enlargement, inappetence, reluctance to walk and subtle intermittent colic-like signs. The mare had been the recipient of a single eight-day old polo horse embryo, eight months prior.

Clinical examination showed the mare to be quiet but alert, with a grossly distended and rounded abdomen. Auscultation of heart and lungs revealed a tachycardia of 60 beats per minute, and tachypnoea of 30 breaths per minute with increased respiratory effort. Mucous membranes were pink, moist with a capillary refill time of less than 2 seconds. Rectal temperature was within normal limits. A moderate amount of ventral oedema was also noted.

The mare was sedated with 30 mg Romifidine hydrochloride (Sedivet; Boehringer Ingelheim, Berkshire, UK) and 5 mg Butorphanol tartrate (Torbugesic; Forte Dodge, Southampton, UK), along with being given 500 mg Flunixin meglumine (Finadyne; Schering-Plough, Herts, UK) and 150 mg Hyoscine butylbromide (Buscopan 20; Boehringer Ingelheim, Berkshire, UK) intravenously, prior to performing a rectal examination. A grossly enlarged uterus was palpable, extending well above the pelvic brim, and as far forward as could possibly be palpated. Ballotement of the uterus could not reveal the presence of a fetus. No other abdominal contents were palpable. Trans-rectal ultrasound examination of the uterus showed

a large volume of speckled hypoechoic fluid greater than 25 cm in depth. Trans-abdominal ultrasound was also performed with similar results. Despite extensive examination, no fetus could be identified. A diagnosis of hydrallantois was made.

Due to the limited economic value of the recipient mare, supportive fluid therapy, as recommended by previous studies (Frazer and others 1997, Christensen and others 2006), was declined by the owners. The mare was given prophylactic antibiotics consisting of 9000 mg Procaine Penicillin (Dephacen; Forte Dodge, Southampton, UK) intramuscularly, and 3000 mg gentamicin sulphate (Genta Equine 10 per cent; Dechra, Co. Meath, Ireland) intravenously. The vulva was prepared in a sterile fashion prior to vaginal examination. The cervix was found to be open with the chorioallantoic membrane palpably thickened. The spiked end of a sterile uterine flushing tube was used to rupture the membrane as digital pressure was insufficient. Over a period of 45 minutes, 150 litres of straw-coloured allantoic fluid was drained via the tube. At this stage, a fetus was now palpable, and the decision to induce parturition was made. This was achieved by injection of 15 IU oxytocin (Oxytocin-S; Intervet, Buckinghamshire, UK) intramuscularly every 15 minutes (Macpherson and others 1997). Parturition began after the third injection, and a dead colt foal was removed by assisted vaginal delivery. Large quantities of allantoic fluid were expelled during parturition. The foal was of a size consistent with



FIG 1: Excessively twisted umbilical cord



FIG 2: Fetal membranes showing evidence of diffuse placentitis

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its gestational age with no gross abnormalities, but was already showing signs of decomposition. The umbilical cord was grossly thickened, oedematous and excessively twisted (Fig 1). The placenta was pale and thickened, showing signs of diffuse placentitis (Fig 2). These placental malformations were likely to be the cause of the hydrallantois.

Immediately after parturition, the mare was happy to stand and graze comfortably with a heart rate of 50 beats per minute, respiratory rate of 30 breaths per minute and mucous membranes pale pink, moist with a capillary refill time of two seconds. However, over the next 20 minutes, the mare's condition deteriorated rapidly. Her heart rate rose to over 100 beats per minute, her respiratory rate rose to over 60 breaths per minute with increased effort and abdominal component. Her mucous membranes became pale and tacky with a capillary refill time over three seconds. The mare appeared to be entering hypovolemic shock and was subsequently euthanased.

This case clearly demonstrates to veterinary surgeons the severe and life-threatening consequences of hypovolemic shock following the draining of uterine fluid, and induction of parturition in cases of hydrallantois in the absence of supportive fluid therapy. It also reports the first recorded case of hydrallantois in an embryo-transfer-recipient mare.

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