

## Uterine prolapse in a purebred Arabian mare: a case report

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**ABSTRACT:** A 17-year-old purebred Arabian mare was presented with a history of uterine prolapse of 3-hour duration. The case occurred just after expulsion of foetal membranes in a mare aborting during the 7<sup>th</sup> month of pregnancy. During treatment the uterus was replaced to its normal position following epidural anaesthesia. No vulval sutures were inserted. There was no vaginal discharge during the postoperative period. Rectal examination conducted 5 days later revealed that rapid involution of the uterus occurred.

**Keywords:** uterine; prolapse; mare

Prolapse of the uterus is uncommon in the mare (Doganeli and Akkayan, 1963; Gray, 1975; Vaughan, 1986; Allen, 1988; Ocal, 1999). In general, prolapse occurs while the membranes were removed and due to traction applied to the allantochorion (Marshall, 1975; Allen, 1988). It is also reported that it may occur following dystocia (Burgess, 1975). However, Donaldson and Kernohan (1975) showed that the cervix could prolapse and the non-gravid horn of the uterus could be completely everted.

Usually one but rarely both horns of the uterus prolapse, but the uterine body may comprise the main part of the everted organ (Ocal, 1999). The everted endometrium is rich in terms of vascularisation and can be easily recognized (Allen, 1988). If a mare with uterine prolapse is standing, the whole weight of the uterus (and membranes) pulls on the uterine ligaments, which rapidly provokes irritation and symptoms of severe colic. Hence, the colic reactions frequently cause traumatisation, congestion, swelling and bleeding of the placenta diffusa of the mare (Donaldson and Kernohan, 1975).

The aim of this report was to present a case of prolapsed uterus encountered in an Arabian mare. To the best of our knowledge, this is the first prolapsed uterus case that occurred following abortion reported in the literature.

### CASE HISTORY

The mare suffering from uterine prolapse was 17 years old, purebred Arabian mare, which aborted in the 7<sup>th</sup> month of pregnancy. The owner reported that serious contractions occurred during the expulsion of the foetal membranes. The expulsion took place 6 hours following the abortion. The uterus was prolapsed immediately after expulsion.

The mare was admitted 3 hours later after the case developed. The animal was standing, and the clinical examination revealed that even though the overall condition was good, the pulse and respiration rate were slightly above the average value (pulse: 49, respiration: 22). Uterine endometrium was congested. Foetal membranes were expelled. Uterus was oedematous and stained with blood clots.

Before treatment, epidural anaesthesia was applied to prevent straining. Ten millilitres of bupivacaine (Marcaine, 0.5%, Eczacibasi) were administered epidurally. The uterus was washed with sterile saline solution. Antibiotic pomades (Pom. Terramycine<sup>®</sup>, Pfizer) were placed into uterus. The uterus was then returned to its normal anatomic position. Once the uterus was replaced, the hand was placed to the tip of both uterine horns to make sure that there was no remaining invagination that could incite

Table 1. Some biochemical parameters in the mare with prolapsed uterus

Parameters	Prolapsed uterus	Physiological levels*
K (mmol/l)	4.80	2.4–4.7
Ca (mg/100 ml)	9.63	11.7–13.6
P (mg/100 ml)	4.3	3.1–4.6
Glucose (mg/100 ml)	73	75–115
Cholesterol (mg/100 ml)	109	75–150
Total protein (g/100 ml)	6.0	5.7–7.9
Albumin (g/100 ml)	2.8	2.3–3.9
Total bilirubin (mg/100 ml)	1.53	0–2
Direct bilirubin (mg/100 ml)	0.34	0–0.4
ALP (IU/l)	161	143–395
ALT (IU/l)	20	2.7–20.5
AST (IU/l)	356	226–366

\*physiological levels were kindly obtained from Smith (1990)

abdominal straining and another prolapse. No sutures were inserted to vulva. No tetanus antitoxin was applied.

## DISCUSSION

Postpartum uterine contractions due to uterine involutions are very strong in the mare (Doganeli and Akkayan, 1963; Gray, 1975; Vaughan, 1986; Allen, 1988; Ocal, 1999). In this article, a very rarely encountered uterine prolapse case is presented to the attention of fellow colleagues. It has been suggested that uterine prolapse may generally occur immediately after expulsion or due to traction on foetal membranes or straining. It was found out that this case also took place just after the expulsion of foetal membranes. This is in parallel with Allen's findings (1988).

In order to help rapid involution of uterus and cervix and thus to prevent recurrence of the prolapse, intramuscular oxytocin (Synpivet<sup>®</sup>, Topkim) was administered postoperatively. In addition 4 oblets (Otrizol<sup>®</sup>, Sanovel) were placed into the uterus. Penicillin and streptomycin combination (Dimisin<sup>®</sup> Flakon, DIF) was injected intramuscularly. This medication was repeated daily for the next three days. No vaginal discharge was seen after

treatment. It has been emphasized that all equine obstetric interference should be accompanied by prophylactic injections of tetanus antitoxin (Arthur et al., 1989). Although tetanus antitoxin was not administered in this case, we did not encounter any complication.

In uterine prolapse, it has been noted that the uterine endometrium is very vascular and easily recognized, and the everted organ is usually corpus uteri (Allen, 1988; Ocal, 1999).

Replacement of the prolapsed uteri is generally easy. If the uterine prolapse is recognized early and treated immediately, prognosis is usually good. Furthermore, there is no tendency for the condition to recur at subsequent parturitions (Burgess, 1975; Cran, 1975; Edmonds, 1975; Gray, 1975). However, Marshall (1975) reported of a mare with uterine prolapse which died during the replacement process for the prolapsed uterine which involved intestines. Similarly, Gray (1975) documented two cases, one of which died. Nispet (1975) encountered 4 cases in three years. In one of them, the mare was put into a stable where she became quite frenzied and the everted organ was crushed due to collapsing. She died almost instantly. In this case, cleaning was done and the cleansed uterine mass was elevated to the level of vulva to reduce congestion and then replaced by applying steady pressure beginning at

the cervical portion and gradually working toward the apex. Laceration, necrosis or infection did not occur because of early treatment.

As far as the uterine prolapse is concerned, though there is no information about the relationship between age and uterine prolapse in mares, the old age in cows is known to be an important reason. In two uterine prolapse cases in mares where age was recorded the fact that one was 16 (Gray, 1975) and the other was 18 (Donaldson and Kernohan, 1975) might suggest that in the aetiology of uterine prolapse in mares also age can be a cause. The case presented here also appears to support this suggestion since the mare was 17 years old.

When biochemical parameters were evaluated (Table 1), the calcium level (9.63 mg/100 ml) was below the average physiological values. This indicates a resemblance to the cows, in which hypocalcaemia is believed to play a major role in the aetiology of the uterine prolapse (Ocal, 1999). Other measured biochemical parameters were within the physiological ranges.

## CONCLUSION

In conclusion, uterine prolapse in the mare is easy to replace when treated in the early period. Age and hypocalcaemia may affect the aetiology of uterine prolapse.

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