



CASE REPORT

Manual Replacement of Bilateral Uterine Horn Prolapse Coupled With Retained Fetus in a Great Dane Bitch

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ABSTRACT

Uterine prolapse is a rare clinical condition in bitches. The determining factor in choosing a method of treatment is whether or not the bitch is intended for breeding purpose in the future. The most suitable therapeutic approach for uterine prolapse is surgery. In the present study manual replacement of uterus and per vaginal delivery of retained fetus following replacement is reported. A Great Dane bitch was reported with the history of uterine prolapse following whelping. Radiographic evaluation showed the presence of retained fetus which was found to be non-viable on ultrasound examination. Based on the clinical observations and the results of radiography and ultrasound the case was diagnosed as complete uterine prolapse accompanied with retained fetus. Since, the owner was interested in retaining the breeding potential of the dog, it was decided to replace the uterus *per vaginam*. The prolapsed uterus was cleaned, lubricated and both uterine horns were gently pushed into the vagina with gloved fingers. Then by inserting hand into the vagina the uterine horns were replaced in the abdominal cavity followed by a dead fetus was relieved manually *per vaginam*. It is concluded that when the prolapsed uterus is neither damaged nor necrosed and when it is necessary to retain the breeding potential of the bitch, manual replacement without surgical removal can be adopted as the method of treatment.

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INTRODUCTION

Uterine prolapse is a rare clinical condition in bitches with a reported incidence of <0.03% (Wood, 1986). It can happen in first pregnancy, but is most likely after a bitch has had several litters, with or without complications. The condition occurs due to prolonged labor, up to 48 hours after whelping, when the cervix is extremely dilated and may involve single or both uterine horns. Other possible causes include prolonged dystocia, oversized fetus, multiple pregnancies, laxity of uterine ligaments, excessive abdominal contractions, uterine atony and placental detachment (Wood, 1986). In the uterine prolapse, a uterine segment passes through the cervix and vagina, when the cervix is relaxed, and protrudes at the vulva, in variable extension (Davidson, 2009). Severity of the clinical signs and prognosis depend on the duration of the prolapse. The determining factor in choosing a method of treatment is whether or not the bitch is intended for breeding purpose in the future (Agaoglu *et al.*, 2012). The most suitable therapeutic approach for uterine prolapse is

surgery, in particular when one uterine horn is fully everted (Payan-Carreira *et al.*, 2012). In the present study since the owner wanted to retain the breeding capacity of the bitch manual replacement of uterus and per vaginal delivery of retained fetus following replacement is reported.

CASE HISTORY AND OBSERVATIONS

A six year old Great Dane bitch weighing 46 kgs was brought to the small animal gynaecology unit of Madras Veterinary College Teaching Hospital with the history of sudden Expulsion of large reddish mass from the vulva. The bitch had whelped five healthy pups the previous night with the last pup delivered two hours before. Owner reported that after the birth of the last pup the placenta was coming out when the bitch suddenly pulled the placenta with its teeth and ingested the placenta. Forceful removal of the placenta was followed by severe vaginal bleeding after which the prolapse of the uterus was noticed by the owner.

General examination of the bitch revealed that the body condition was optimum and the bitch was in standing posture and not straining. The temperature, heart rate and pulse rate were within the physiological limit. Examination of vulva revealed the prolapse of both horns of uterus (Fig. 1). The mass was protruding out about 6 cm from the base of the vulva. Motility of the uterus was visualized. The mass was slightly swollen and congested with no evidence of lacerations, necrosis and tear (Fig.2). Radiographic evaluation showed the presence of retained fetus which was found to be non-viable. Based on the clinical observations and the results of radiography and ultrasound the case was diagnosed as complete uterine prolapse accompanied with retained fetus.

TREATMENT AND DISCUSSION

Since, the owner was interested in retaining the breeding potential of the dog, it was decided to replace the uterus pervaginum. The prolapsed uterus was cleaned with normal saline and hypertonic saline solution (25% dextrose) was poured over the prolapsed mass to reduce the swelling. The uterus was lubricated with antiseptic cream (Cetrimide) and both uterine horns were gently pushed into the vagina with gloved fingers. Then by inserting hand into the vagina the uterine horns were replaced in the abdominal cavity following which careful examination was done to locate the retained fetus. A dead, immature and under sized fetus was relieved manually pervaginum (Fig.3). The bitch was treated with intravenous fluids and antibiotics and the bitch became normal and quite active. Pups were allowed to nurse the bitch and it was discharged on the same day. No further complications were reported by the owner and the bitch recovered uneventfully.

Uterine prolapse is seldom diagnosed in dogs, in particular when associated with parturition, when compared to other species (Johnson, 1989). More often it takes place right after the expulsion of foetuses, but it may also occur in association with the expulsion of one of the foetus, when it may be at the origin of maternal dystocia because of obstruction of the vaginal vault. In the present case the uterine prolapse occurred even when one fetus was still present inside the uterus. Excessive expulsive efforts and oversized foetus are frequent causative factors. The other most common causes for the occurrence of uterine prolapsed in bitches are the tenesmus, inappropriate obstetrical technique, such as a faulty administration of oxytocin or excessive force during manual intervention (Hedlund, 2007; Reichler and Michel, 2009). Partial or total uterine prolapse is relatively less common in the bitch than in the queen. Darvelid and Linde-Forsberg (1994) reported not even a single case of uterine prolapse after analysing 182 obstetrical conditions in bitches.

No particular age and breed predisposition was recorded with the incidence of uterine prolapse in bitches. Johnson (1989) reported that uterine prolapse occurred in bitches of varying ages and breeds, and in primiparous or multiparous females.

For a successful treatment, early and correct diagnosis was important, as uterine prolapse can produce a life threatening situation in the event of severe bleeding into the abdominal cavity. The prolapsed mass should be



Fig. 1: Uterine prolapsed



Fig. 2: Swelling and congestion of right uterine horn



Fig. 3: Retained fetus delivered pervaginum

differentiated from true vaginal prolapse or vaginal or uterine neoplasm. The mass should be thoroughly examined for the presence of rupture and eventual haemorrhage (Payan-Carreira *et al.*, 2012). The uterine tissue may be ischaemic or necrotic, depending on the duration of the prolapse. The clinical signs are largely dependent on the degree of the prolapse or the extent of the rupture, the existence of haemorrhage, the contamination of the abdominal cavity with uterine and foetal fluids, or the retention of a foetus in the uterus (Payan-Carreira *et al.*, 2012). In the present case only slight swelling and congestion of the uterine horns was noticed.

As uterine prolapse occurring early in parturition could impair its normal progress, and may promote foetal retention with posterior maceration. If uterine rupture coexists, the foetus may escape into the abdominal cavity resulting in posterior peritonitis or granuloma formation. Hence, it is important to ascertain the presence of foetus

in the uterus and the patency of the birth canal (Payan-Carreira *et al.*, 2012). In this case one immature and under sized fetus was retained due to fact that uterine prolapse was only partial. Retained fetus was relieved by inserting the hand into the uterus since it was large sized Great Dane female with a large pelvic inlet permitting the hand of the veterinarian to pass into the uterus. The determining factor in choosing a method of treatment is whether or not the bitch is intended for breeding purposes in the future (Agaoglu *et al.*, 2012). The most suitable therapeutic approach for uterine prolapse is surgery, in particular when one uterine horn is fully everted (Payan-Carreira *et al.*, 2012). In the present case, since the prolapsed uterus had no lacerations, necrosis and looked relatively fresh and also the owner wanted to retain the breeding capacity of the bitch it was decided to manually replace the uterus and not resort to surgical intervention.

Hence, it is concluded that the uterine prolapse in the present case might have occurred due to the sudden traction given by the bitch while removing the placenta from the birth canal. Further, when the prolapsed uterus is neither damaged nor necrosed and when it is necessary to retain the breeding potential of the bitch, manual replacement without surgical removal can be adopted as the method of treatment.

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