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## Management of total uterine prolapse in a calico queen

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### Abstract

A female domestic short haired cat that delivered two live kittens was presented with prolapse of uterus immediately after kitting. The cat had an unassisted delivery with kitting time extending more than 24 hours after the appearance of the first water bag. The 'Y' shaped everted uterine mass was edematous, protruding out from the vulva from past 8 hours. Based on the clinical findings the condition was diagnosed as complete uterine prolapse. Manual replacement of the prolapsed uterus was performed and purse string sutures were applied surrounding the vulval lips to retain the prolapsed mass in place. After 10 days of monitoring there was no recurrence of the prolapse and the cat had an uneventful recovery.

**Keywords:** Total uterine prolapse, queen, purse string suture

### Introduction

Uterine prolapse is rare in the queen, usually occurring after delivery of kittens or abortion (Johnston *et al.*, 2001) [1] and usually happens when both uterine horns emptied after parturition (Nasser *et al.*, 2015) [5]. Uterine prolapse can occur at any time during prolonged labour and up to 48 hours after delivery, it can also occur during normal parturition (Roberts and Straw Rodney, 1988) [7] and has an incidence of less than 0.03% (Nasser *et al.*, 2015) [5].

### Case history and observation

A four-year-old, domestic short haired cat was presented to small animal unit of VGO unit of Veterinary Clinical Complex, RIVER, Puducherry with protrusion of a mass through the vulva [Fig 1]. The cat had delivered two live kittens with prolonged and intense straining efforts, with a kitting time of more than 24 hrs without any assistance. After parturition, the owner noticed a hyperemic mass protruding from the vulva. On presentation, the cat was dull but the general vital parameters were within normal limits (temperature 101°F, respiratory rate 30 breaths/min, heart rate 120 beats/min). The prolapsed mass was 'Y' shaped and suggestive of involvement of both uterine horns. Based on the above observations, the condition was diagnosed as complete total uterine prolapse.

### Treatment

The entire uterine mass was cleaned with potassium permanganate diluted in normal saline. The debris on the prolapsed mass was removed. Liquid paraffin was then applied on the surface of the uterine mass and with gentle pressure the mass was manually replaced into the normal anatomical position [Fig 2]. After repositioning of the uterus, local infiltration with Inj Lignocaine 2% and Inj Tramadol @ 0.2 mg/Kg bwt s/c was administered to reduce the pain during application of sutures. Purse string suture was applied using Catgut size 1-0 [Fig 3] surrounding the vulval lips. Finally, 10 ml normal saline was infused into the uterus [Fig 4] to settle it to its original position. Antibiotic treatment with Syrup Cephalexin @ 20mg/Kg bwt P/O, BID, for 5 days along with Syrup Meloxicam @ 0.1mg/Kg bwt P/O, SID was prescribed post operatively. Further the owner was advised to bring the animal after 10 days for suture removal [Fig 5]. There was no recurrence of prolapse after the suture removal and the animal had an uneventful recovery.

## Discussion

In the present case, as others have described in the literature, total uterine prolapse occurred following parturition (Biddle *et al.*, 2000 and Deroy *et al.*, 2015) <sup>[1, 3]</sup>. This uncommon complication has been reported in both primiparous and multiparous cats from 10 months to 6 years of age (Bigliardi, 2014 and Ucmak, 2018) <sup>[2, 9]</sup> and can occur with either one or both horns involved in it (Wallace *et al.*, 1970) <sup>[10]</sup>. The possible causes include excessive relaxation and stretching of the pelvic musculature, extreme dilation of the cervix, uterine atony due to metritis, incomplete separation of the placental membranes, severe tenesmus and rupture of the mesovarium and mesometrium. Typically, these mechanisms all occur under the powerful contractions induced by oxytocin, which is released during labour (Roberts and Rodney, 1988) <sup>[7]</sup> and intensifies in early lactation. Diagnosis is made by inspection of the prolapsed uterus. For uncomplicated cases, the suggested therapeutic option is manual reduction. In the present case prolapsed tissue mass successfully reduced manually and repositioned (Sathiamoorthy *et al.*, 2011) <sup>[8]</sup>. However, if reduction is not possible, the uterus is amputated, and the stump is reduced, followed by immediate ovariectomy by coeliotomy (Bigliardi *et al.*, 2014) <sup>[2]</sup>. If the owner is not interested in future breeding, an ovariohysterectomy is also recommended (Özyurtlu and Kaya, 2005) <sup>[6]</sup>.



**Fig 1:** Bilateral prolapse of uterine horn



**Fig 2:** Manual reduction of uterine into pelvic cavity



**Fig 3:** Purse string sutures



**Fig 4:** Normal saline infusion into uterus



**Fig 5:** Recovered cat after suture removal

## Conclusion

It can be concluded that total uterine prolapse can be easily managed by timely intervention and manual reposition without affecting the conception during subsequent pregnancy.

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