CASE REPORT

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Prolonged whelping in bitches

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Abstract
Physiological whelping occurs at the end of gestation and involves the expulsion of fetus/pups through the genital tract aided by natural forces. These reports draw the attention of practitioners and breeders to the possibility of some unusual events during whelping and precautions to be taken in its management. They also highlight some unethical practices by breeders that may put in jeopardy processes and outcome of whelping. Two bitches separately presented to a Veterinary Hospital with history of dystocia were investigated. The dystocia was characterized by prolonged inter-whelping interval (more than 72 hours) in the first and unproductive labour in the second. Administration of appropriate doses of oxytocin led to the relief of the dystocia in both cases. The misuse of oxytocin by breeders was probably responsible for alteration in whelping events. The above reports suggest that dystocia should be thoroughly evaluated, an appropriate obstetric management regimen be established, strict enforcement of regulations guiding drug handling by non-professionals should be recommended.

Keywords: Bitch, Dystocia, Oxytocin, Unethical practices, Unusual whelping
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Introduction

The normal length of gestation in the bitch is preprogrammed. It could be 56-58 days from the first day of diestrus as determined by vaginal cytology, or 64-66 days from the day of the luteinizing hormone surge or 64-66 days from the initial rise in progesterone to between 2-3 ng/ml (produced by the ovary after ovulation), during estrus or 70-72 days from the last day of mating (Root-Kustritz, 2001). The length of gestation from the first day of mating varies from 58-72 days because of the discrepancy between day of mating and the actual fertilization date. Predicting whelping dates from day of mating is imprecise because whelping usually occurs after the progesterone level falls to <2 ng/ml (Root-Kustritz, 2001).

Towards the end of gestation, there is a 1 ^{o}C drop in rectal temperature usually about 24 hours before the commencement of events leading to whelping (Freak, 1975). Canine labor occurs in 3 stages (Mazzaferro, 2010). Stage one consists of regular and progressive uterine contractions that last between 10 and 24 hours culminating in cervical dilatation. The bitch at this time may become restless and reclusive, and may lose appetite. Vomiting may occur, and nesting behavior is common (Concannon, 2002). Stage two consists of visible abdominal muscular contractions to expel the fetuses within 4 hours (Root-Kustritz, 2001) during which the bitch is in a squatting or lying position. It is considered a veterinary emergency if the dog does not whelp the first puppy within 2 hours of beginning this stage. The dam may rest after the birth of the first puppy; if her resting period lasts longer than 4 hours without another puppy being born, veterinary assistance is needed and puppies are delivered encased in amniotic membranes (Concannon *et al*., 1989).

The chorioallantoic membrane usually ruptures during delivery (breaking water). Breech delivery is considered normal in the dog, occurring 40% of the time (Concannon *et al*., 1983). The normal bitch immediately licks the neonate to remove the

remaining fetal membranes and associated fluids, and initiate respiration. If the bitch fails to do so, the caretaker should clean the membranes away from the puppy's face; remove fluids from the airways with light suction using an infant bulb syringe. Puppies should not be swung to clear their airways, as brain damage can occur. Next, the caretaker should stimulate respiration with towel drying. The umbilical cord should be tied off with clean suture or dental floss, severed 1 inch from the puppy abdomen, and painted with tincture of iodine. Every attempt should be made to allow maternal participation and bonding. Third stage labor is defined as the delivery of the placenta, which may be attached to the puppy, or may follow later in labor. This normally occurs 5 to 10 minutes after the birth of the puppy such that, if several puppies are delivered in rapid succession, several placentae may be delivered at one time and bitches normally alternate between stages 2 and 3 until delivery of all fetuses and placentae is complete (Concannon *et al*., 1983).

This study is aimed at drawing the attention of practitioners and breeders to the possibility of some unusual events during whelping and precautions to be taken in its management. It also highlights some unethical practices by breeders that may put in jeopardy processes and outcome of whelping.

Case Report

Case 1:

History, Observation and Intervention: A 2 year old primiparous Nigerian local bitch was presented to the Veterinary Teaching Hospital, University of Ibadan (UI, VTH) with dystocia (posterior presentation). The fetus was found hanging lifeless and autolysed in the birth canal (Plate I). History revealed that the bitch was mated about 65 days earlier using an Alsatian stud but was inadvertently further exposed to other male dogs (Nigerian local breed) in the same compound.

On examination, the amniotic fluid had burst, discharging a foul-smelling greenish fluid. Two puppies of obviously different sizes were delivered dead by traction and appeared autolysed (Plate II). Further assessment by abdominal palpation indicated that there were still some viable fetuses present in the uterus but the bitch had lost contraction, hence an ecbolic was administered (10 i.u oxytocin, intramuscularly) after which the bitch further delivered two weak puppies which were tube-fed with colostrum milked from the bitch. Further 10 i.u of the ecbolic drug, broad spectrum antibiotic (Penicillin-streptomycin 3mls for 5 days) and appetite boosters (B-Complex Vitamin) were administered intramuscularly. It was however reported the next day that the puppies died later that evening. Meanwhile the bitch delivered two more puppies alive which were observed to be very strong and active after almost 24hours interval (Plate II).

Case 2:

History, Observation and Intervention: An adult Boerboel bitch was presented with a history of dystocia. The owner reported that the bitch was mated about 67 days earlier and had successfully whelped four live puppies about 72hours earlier. The client reportedly administered 50 i.u of oxytocin in two divided doses 48 hours after he noticed labour difficulty in the bitch. However, the client after 24 hours of waiting with no positive outcome decided to present the case to the UI, VTH.

On examination by abdominal palpation, there was evidence of fetal presence in the uterus. A greenish foul-smelling watery discharge was observed from the vulva with intermittent straining by the bitch. Further examination per-vaginum revealed a well dilated cervix with no fetal part presented. Therefore, an ultrasound scan (Plate IV) was carried out on the bitch to further confirm the pregnancy status and the result confirmed the presence of fetuses in the uterus.

The bitch was therefore referred for surgery and since the owner had earlier administered oxytocin, it was not considered necessary by the clinician to administer another dose. However, about 30 minutes before the surgery, the bitch whelped a dead autolysed puppy. Five i.u of oxytocin was then administered about 15 minutes later and following this, the dog whelped a live puppy. Another 5 i.u of oxytocin was administered about 30 minutes later to aid expulsion of the remaining uterine contents. The bitch was followed up with broad spectrum antibiotic (Penstrept^{R}) intramuscularly for 7 days.

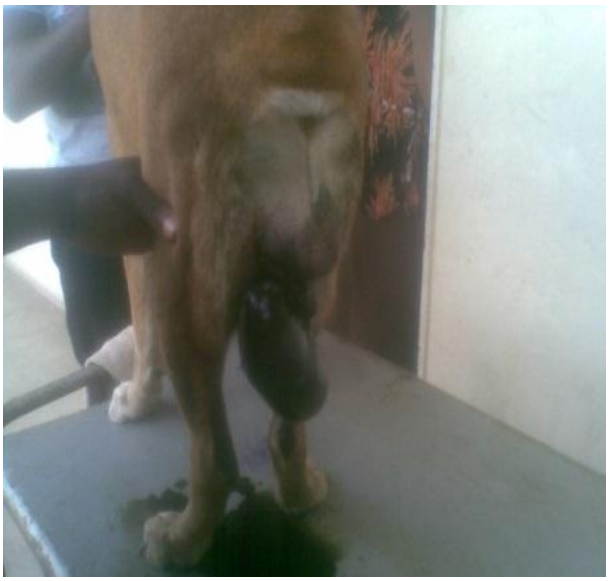

Plate I: The bitch whelping a dead autolysed fetus

Plate II: Autolysed fetuses of different sizes and ages delivered by the bitch

Plate III: Two live puppies delivered by the bitch after oxytocin administration

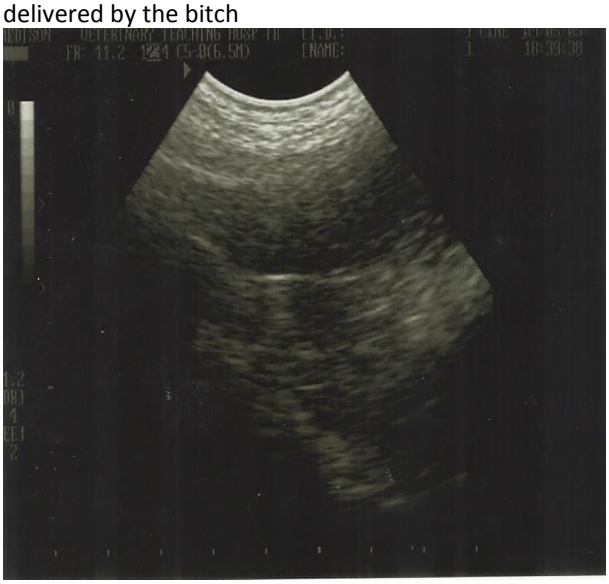

Plate IV: Ultrasound image of the uterus confirming the presence of foetuses

Discussion

Whelping in the bitch is a physiological process involving the expulsion of normal viable fetuses from the uterus through the birth canal by natural forces alone at a stage when the young one is capable of independent existence (Roberts, 2004).

The abnormality observed in the two cases at initial presentation was that of difficult and unduly prolonged labour (dystocia). More than 50 i.u of oxytocin had been administered in quick successions by the clients prior to presentation to the clinic in an attempt to manage the cases on their own but with no resultant outcome. This is contrary to the recommended and documented dosage in canine (Root-Kustritz, 2007). The misuse of oxytocin in terms of over-dosage by the clients probably must have contributed to the eventual birth of dead puppies after veterinary intervention (Chennels *et al*., 2012).

The stages of expulsion of fetus have been reported to be irregular, some bitches may have their first pup and then rest for several hours, then expel two or three more in quick succession and then rest again before expelling several more (Concannon, 2002). In the present study, the two bitches took about 72 hours for the expulsion of their puppies. This report

to the best of our knowledge is the first of its kind to be documented in the study location.

The two cases presented showed some evidences that the clients had by themselves administered doses of oxytocin prior to presentation at the clinic in an attempt to relieve their pets of dystocia. This is purely an unethical practice since oxytocin is strictly a prescriptive drug and its misuse has often led to fatal mortalities (Root-Kustritz, 2007).

It was also found that owners only presented their pets to the clinic after several unsuccessful attempts by them trying to relieve their pets of dystocia and because of their wrong obstetrical approach, manipulations and late presentation at the clinic, such cases usually come with different emergencies and subsequent lack of thorough assessment by most clinicians.

Dog breeding has become more popular and lucrative practice especially in Nigeria because of the security challenge in the country and the high cost of importation of dogs with complete pedigree records. Most dog breeders who especially lack professional training have engaged in the sharp practice of mis-mating exotic heavy breeds with smaller breeds of dogs which often leads to the risk of dystocia.

These sharp practices among breeders therefore should be discouraged by means of adequate public education and strict enforcement of regulations guiding drug handling by non-professionals.

In conclusion, dog owners are advised to closely monitor whelpings of their bitches and promptly report cases of prolonged labour to their veterinarians in order to prevent fetal and or maternal death. The veterinarians should thoroughly evaluate dystocia cases and establish appropriate obstetric management regimen.

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