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Successful surgical management of rabbit dystocia

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Abstract

A eight months old female rabbit was presented with a history that impending straining for over twenty-four hours and delivered a one live bunny. Clinically the doe was dull, depressed but remained responsive. On gentle vaginal examination, fetal structures were palpable. On mild traction, a broken piece of the hind quarters of the fetal parts was removed manually. Ultrasonographic examination revealed the fetal skeletal structure with feeble heart beat was visualized. Induction with injection oxytocin 2 IU intramuscular and a dead female fetus was expelled. The fetus was removed by caesarean section with general anaesthesia. The post-operative care with following parenteral antibiotic and analgesic for seven days, the doe had an uneventful recovery.

Keywords: Caesarean section, dystocia, rabbit, surgical management

1. Introduction

Oryctolagus cuniculus is the European wild rabbit in ancestor of all domestic rabbits. Around fifty different species of bunnies can be found throughout the world^[4]. Normal delivery takes about 30 minutes. But, the cases of dystocia in rabbits are uncommon and typically characterized by large pups or fetal monsters. Split parturition can occur, with intervals of a few hours to several days being recorded. The result of unintentional or deliberate double matings. To diagnosis for retained fetuses, all post-parturient does should be palpated or examined 24 hours after the last pup was ejected. A C-section is frequently required for bunny when vaginal birth is difficult and all other means of naturally delivering the kit have failed, as this could risk the bunny's or her kit's life^[6]. The ideal goals of conducting a C-section are the survival of the rabbit and kit, as well as the preservation of the rabbit's future reproductive effectiveness.

2. Case History and Observation

An 8 months-old, bearing weight 1.5kg local rabbit breed was brought to the Veterinary Clinical Complex (VCC), Department of Veterinary Gynaecology and Obstetrics, RIVER, Puducherry with the history of impending signs of kindling like fur pulling and nest building for over twenty-four hours and subsequently delivered a one live bunny. The doe showed unproductive straining since then with bloody vaginal discharge. On Clinical examinations the general appearance was dull and depressed, respiratory rate, rectal temperature, heart rate were normal ranges. Vaginal examination revealed that the fetal bones were palpable. By mild traction was given and broken piece of hind quarters of fetal bones were removed per vaginally (Fig. 1). For further investigation, ultrasonographic examination was revealed that the fetal skeletal structure with feeble heart beat was visualized. The doe was administered injection oxytocin 2 IU intramuscular and after an hour, a dead female fetus was expelled (Fig. 2). Again after 20 minutes another one dose of oxytocin was given but doe failed to expel that remain foetuses.

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Fig 1: Broken piece of fetal parts



Fig 2: Dead female kid



Fig 3: Restraining anaesthesia with close monitoring



Fig 4: Post-Operative Care

Due to unresponsive medical treatment, it has been decided for caesarean section. The animal was anaesthetized with injection xylazine and ketamine @5mg/kg and 50 mg/kg body weight, respectively. Restraining anaesthesia with close monitoring (Fig. 3). By mid-ventral incision through linea alba, the gravid uterus was exteriorised and the remain three foetuses were removed. The peritoneal cavity was flushed with injection Metronidazole and normal saline, and the uterus was closed by Lembert and Cushing method with vicryl (2-0) and the muscles and skin were sutured as per the standard procedure. The post-operative care with Antibiotic Ceftriaxone @60 mg/Kg bodyweight was administered intramuscularly daily for 7 days. Antihistamine Chlorpheniramine maleate @1mg/Kg body weight was administered intramuscularly daily for 7days. Analgesic Meloxicam @0.2 mg/Kg body weight was administered subcutaneously daily for 5 days for pain management. Regular dressing of surgical site was carried out (Fig. 4). The doe was brought at the clinics on 11th post-operative day and suture was removed on the same day. The doe had an uneventful recovery without any complication.

3. Case Discussion

The female rabbit reproductive tract is distinct in that it lacks a uterine body, and each uterine horn has its own cervix that opens directly into the vagina^[1, 2]. Gestation period of rabbit is 28-31 days and has average litter size of 3-8 in numbers. Pregnancy in rabbit can be diagnosed by abdominal palpation 10-14 days after mating and fetal parts can be felt as small masses^[5]. Dystocia is uncommon in rabbits since normal delivery occurs within 30 minutes of the beginning^[3, 5, 8]. In case of prolonged gestation, one or more abnormal kids may be present, usually born dead and if not expelled, mummification or maceration can occur^[9]. Dystocia is the inability to remove the fetus from the uterus after the pregnancy has ended and it is caused primarily by maternal or fetal difficulties. Maternal abnormalities include pelvic abnormalities or deformities, as well as uterine inertia. Fetal abnormalities include malpresentation, malposition, or malposture, as well as an enlarged or deceased fetus^[7].

4. Conclusion

In the present case study, one live kid was normally delivered, one dead kid with fetal bones are manually removed per vaginally and four kids remain in uterus. Oxytocin promotes the influx of calcium into the myometrial cells, increasing the frequency and strength of uterine contractions. In rabbits, doses of 1 to 3 units of oxytocin can be administered intramuscularly to assist in uterine contraction. After induction with oxytocin one dead female kid was expelled. Calcium gluconate may also be used as an uterotonic agent in combination with oxytocin. But in my study case no response of calcium gluconate and oxytocin for further induction. So, it has been decided for Caesarean section. So, the present case report suggests that rabbit C-section can be performed successfully with xylazine and ketamine anesthesia with recommended doses and three dead kid was removed. C-section can be considered as safe for dystocia in rabbit rather than forceful manual traction. To avoid postoperative complications, good postoperative care and appropriate analgesia are required. The rabbit recovered without incident following C-section post-operative treatment.

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