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SURGICAL DELIVERY OF LIVE FETUS IN BUFFALO SUFFERING FROM SECONDARY EXTRA-UTERINE PREGNANCY

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ABSTRACT

Ectopic or extrauterine pregnancy is a pathological state that consists of a pregnancy developing outside the uterus. A 6-year buffalo having history of abdominal distention from last 15 days was presented to Veterinary Clinical Complex, LUVAS, Hisar. As per history provided by owner, animal had completed 9 months in gestation. Clinical examination revealed that distention was present in ventral abdomen and upon rectal palpation of genitalia no fetal part was palpable and unlike pregnant animal cervix could be retracted back into pelvic cavity but cervix was hypertrophied just as present in pregnant animal. Placentomes were visible on ultrasonographic examination. Thus, case was tentatively diagnosed as a case of ectopic pregnancy. Upon left flank laparotomy it was confirmed as case of secondary extra uterine pregnancy and live premature fetus was delivered.

Keywords: *Bubalus bubalis*, buffaloes, flank laparotomy, live fetus, uterine rupture

CASE HISTORY

A 6-year-old buffalo in 3rd parity was presented to Teaching Veterinary Complex of Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar with a history of abdominal distention from 15 days which had increased gradually over time. As per history provided by owner, animal had completed 9 months in gestation. Clinical examination revealed that distention was present in ventral abdomen. Further, on per rectal palpation of genitalia no fetal part was palpable and unlike pregnant animal cervix could be retracted back into pelvic cavity but cervix was hypertrophied just as present in pregnant animal. Additionally, placentomes were visible on per rectal ultrasonographic examination.

Ectopic or extrauterine pregnancy is a pathological state that consists of a pregnancy developing outside the uterus. There are no definite causes and mechanisms leading to this pathological condition (Corpa, 2006). Incidence of ectopic pregnancy is relatively higher in humans as compared to domestic animals including cattle and buffaloes but a detailed epidemiological

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investigation in these species is still lacking (Corpa, 2006).

Ectopic pregnancy can be subdivided into two types i.e. primary and secondary. Primary ectopic pregnancy occurs when an oocyte that is directly lost from the fimbrial or the oviduct, is fertilized in the abdominal cavity and develops there, or a fertilized ova instead of entering uterus, enters the peritoneal cavity and becomes attached to the mesentery, abdominal viscera, outer uterine wall or spleen. In a true primary form, placentation must exist on surface other than uterine endometrium. While, in case of secondary ectopic pregnancies, following the rupture of an oviduct or the uterus either due to external trauma or internal pressure, implanted fetuses are expelled into the peritoneal cavity (Smith *et al*., 1989; Owensby *et al*., 2001). Further, on the basis of location, ectopic pregnancies can be classified as oviductal or abdominal pregnancy. Primary or true extrauterine pregnancy are usually not found in ruminants due to non-invasive nature of placenta in these species while secondary or false extra-uterine pregnancy are occasionally encountered in ruminants. In this condition the fertilized ovum, embryo or fetus develops normal placental relationships with the endometrium, and the fetus reaches recognizable size it then escapes from the uterine cavity either into abdominal cavity or the vagina. These conditions usually occur in the last two-thirds of the gestation period (Segura *et al*., 2004).

TREATMENT

On the basis of clinical examination, present case was tentatively diagnosed as a case of extra uterine pregnancy, and it was decided to perform exploratory laparotomy through left paralumbar fossa in standing position as lateral or ventral recumbency could prove detrimental to survival of animal due to respiratory distress. Paravertebral nerve block between T_{13}, L_1, L_2 and L_3 using local anesthetic (Lignocaine HCl) was given to animals and surgical site was aseptically prepared.

A longitudinal incision parallel to last rib was given in caudal part of paralumbar fossa and exploration of abdominal cavity revealed live fetus present enclosed in intact fetal sac (Figure 1) with patent umbilicus and pulsation can be felt in umbilical artery. Further, it was found that umbilicus was leaving uterus from a small slitlike tear in uterus (Figure 2). Thus, present case was confirmed as secondary extra uterine pregnancy. Premature live fetus was delivered (Figure 3) and after removing fluid from abdominal cavity, tears in uterus was repaired with absorbable suture material (Figure 4). Surgical wound was closed with standard protocols. Intra-operatively intravenous fluid therapy including 2 litre Ringer lactate and 5 litre Normal saline was administered to animals. Post operatively the dam was administered with Calcium borogluconate (450 ml, intravenously), Ceftriaxone salbactum (4.5 gm, intramuscularly), Flunixin meglumine (15 ml, intramuscularly) and other supportive treatment including multivitamin injection. Antibiotic and pain management therapy with other supportive treatment was prescribed for 7 days. After completion of antibiotic therapy animal was bright with normal feeding and showed an eventful recovery.

It was observed that the fetus was live but was exhibiting difficult breathing. Respiratory stimulants were administered to fetus and was put on ventilator for oxygen support but uneventfully fetus died on 2nd day of birth.

Figure 1. Fetal limbs enclosed in fetal sac.

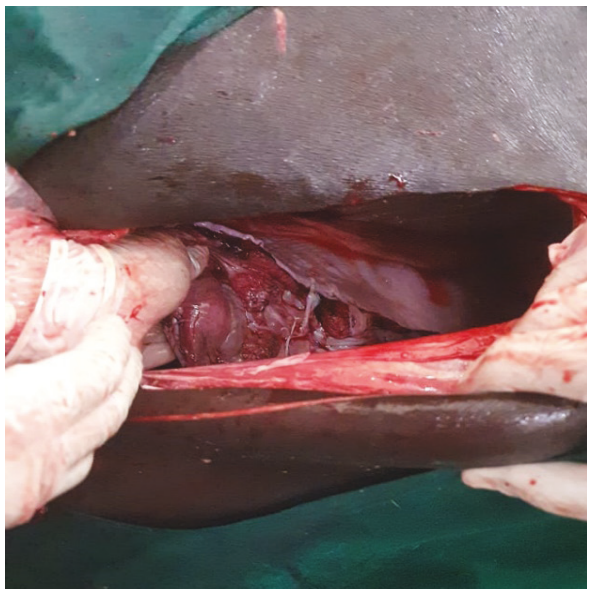

Figure 2. Ruptured uterus visible through incision at left paralumbar fossa.

Figure 3. Delivery of live fetus.

Figure 4. Repair of uterine rupture.

DISCUSSION

Secondary ectopic pregnancies have been previously reported in many of domestic species like sheep, cow, buffalo and rabbit (Mirsepehr *et al*., 2015; Hedge, 1989). The cause of secondary ectopic pregnancy may be related to injury or traumatic rupture of the uterus during pregnancy (Corpa, 2006). The present occurrence probably represents a secondary ectopic pregnancy in which the fetus dropped out of the uterus by means of a tear in the uterus. The fetus escaped from uterus into abdominal cavity with patent umbilical attachment in uterus and intact fetal sacs, thus fetus was live at time of delivery but immaturity in development status resulted into death of fetus. To determine the origin of the uterine rupture in present case was impossible as the owner was himself unaware of proper history of animals. In present case, underlying reason for the rupture of the uterus might be attributed to the trauma caused by slipping or butting by other animals.

REFERENCES

Corpa, J.M. 2006. Ectopic pregnancy in animals and humans. *Reproduction*, **131**(4): 631-640. DOI: https://doi.org/10.1530/rep.1.00606

Hedge, D. 1989. Extrauterine fetal development. *J. Am. Vet. Med. Assoc*., **194**(11): 1522.

Mirsepehr, P., I. Asheghian, M. Hajinasrollah, S.R. Javadi, A.R. Bashiri, M.R. Esmailinejad, H. Taghipour and S.M. Mojtahedzade. 2015. Accidental finding of ectopic pregnancy in a cat with presence of three fetuses without gestational sac that were attached to the abdominal wall and mesentery (A case report). *International Journal of Advanced Biological and Biomedical Research*, **3**(3): 217-221.

Owensby, T., K. Jackson and B. Scharf. 2001. Failure to deliver in a rabbit with intraabdominal masses. *Lab. Anim. Sci*., **30**(9): 23-25. DOI: https://doi.org/10.1038/5000106

Smith, CA., D.J. Stone and Prieur. 1989. Spontaneous profuse superovulation in association with ectopic fetuses in a rabbit. *Lab. Anim. Sci*., **39**(1): 74-77.

Segura, P., B. Peris, J. Martinez, P.J. Ortega and J.M. Corpa. 2004. Abdominal pregnancies in farm rabbits. *Theriogenology*, **62**(3-4): 642-651. DOI: https://doi.org/10.1016/j.theriogenology.2003.11.005