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Successful surgical intervention of false ectopic pregnancy in a graded Murrah buffalo

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Abstract

A six year old female graded Murrah in its third calving was presented with a history of waterbag ruptured before 24 hours, hanging of foetal membranes through vulva. Per vaginal examination, cervix had full hand dilatation and a tear was noticed on the dorsal aspect of right uterine horn and foetal limbs were palpated in the abdominal cavity. The animal was diagnosed as false ectopic pregnancy due to tear in the right uterine horn. Under proximal paravertebral block, epidural anaesthesia and inverted 'L' block, exploratory laparotomy was performed by left lower flank approach and a dead male foetus in the abdominal cavity was removed. Uterus was exteriorized and tear was identified and sutured using catgut size 2 by Cushing followed by Lembert suture pattern. Abdominal muscles were closed using PGA size 2 by ford interlocking pattern and the skin incision was closed by cruciate pattern using sterile cotton thread. Animal was treated with intravenous fluids, ecbolics, antibiotics, anti-inflammatory, anti-histamines and supportive therapy for 7 days. The animal recovered successfully.

Keywords: C-Section, false ectopic pregnancy, dystocia and buffalo

Introduction

Ectopic pregnancy means a pregnancy occurring other than the uterus. False ectopic pregnancy foetus reaches recognizable size in the uterus and escapes either into abdominal cavity through a tear in the uterus called abdominal pregnancies or into the vagina called vaginal pregnancies. Ectopic or extra uterine pregnancy is a pathological condition that cause of a pregnancy developing in a site different from the uterus (Roberts, 1971) ^[1]. Ectopic pregnancies are categorized into primary and secondary forms (Corpa, 2006) ^[2]. In the primary form is reported in human pregnancies in which, an oocyte is fertilized in the abdominal cavity or a fertilized ova enters the peritoneal cavity and becomes attached to the mesentery or abdominal viscera. Secondary form is also reported in domestic animals in which the fetus escapes from the uterus due to trauma or uterine rupture caused by sudden fall or butting by other animals (Owensby *et al.*, 2001 and Kumar *et al.*, 2025) ^[9, 10], uterine torsion and weakening of uterine musculature (Corpa, 2006) ^[2]. In farm animals, secondary ectopic pregnancies were usually diagnosed at the time of parturition (Sheetal *et al.*, 2018 and Prabakaran *et al.*, 2020) ^[11, 7]. The present report records a rare case of secondary ectopic pregnancy and its surgical management in a graded Murrah buffalo.

Case history and clinical observation

A 6 year old female graded Murrah in its third calving was presented with the history of full term pregnant, ruptured waterbag 24 hours before and hanging of foetal membranes through vulva and attended by a field veterinarian. On general clinical examination, the animal was dull and depressed with rectal temperature of 39.7 °C. On external genitalia examination, vulva was edematous and vaginal mucous membrane was pale pink and moist. On vaginal examination, cervix was completely dilated and a tear of 10-15 cm was noticed on the dorsal aspect of right uterine horn and foetal limbs were palpated in the abdominal cavity.

Haematological examination revealed all the parameters were within the normal range except reduced RBC and Lymphocyte count. Serum biochemistry revealed hypocalcemia and hypophosphatemia and hyperglycaemia and azotaemia. Based on history and pervaginal examination, the case was diagnosed as false ectopic pregnancy.

Treatment

Emergency exploratory laparotomy was performed under proximal paravertebral nerve block and epidural anaesthesia using 2% lignocaine. Oblique skin incision was made on the left lower flank followed by abdominal muscles and peritoneum. A fully developed male foetus was removed from the abdominal cavity beneath the omentum (Figure 1). Foetal fluids were removed from abdominal cavity using suction

pump and peritoneal lavage was done using metronidazole. Uterus was exteriorized and tear was identified and sutured using catgut size 2 by Cushing followed by Lembert suture pattern. Omentum was sutured using catgut size 2 by simple continuous pattern. Abdominal muscles were closed using PGA size 2 by continuous interlocking pattern (Figure 2). Skin was closed by cruciate pattern using sterile cotton thread. Post operatively, animal was treated with Inj. Oxytocin 40 IU i/m, Inj. DNS (2 Litres) i/v, Inj. Ringer's Lactate (4 litres) i/v, Inj. Calcium borogluconate 450ml i/v, Inj. Metronidazole (1000 ml) i/v, Inj. Streptopenicillin 5g i/m and Inj. Flunixin meglumine 12ml i/m for 7 days and the animal had an uneventful recovery. In the present case, following a correct diagnosis, dystocia due to false ectopic pregnancy was relieved by emergency exploratory laparotomy.



Fig 1: Fetal limb visualized beneath omentum during C-Section



Fig 2: Closure of abdominal muscles and skin following C-Section

Case discussion

Ectopic pregnancy is defined as the implantation and development of a conceptus outside the uterine cavity. Although it is a well-recognized condition in humans, its occurrence in animals is uncommon and often diagnosed incidentally (Corpa, 2006) [2]. In domestic animals, ectopic pregnancy is rarely reported, and the precise etiological factors and pathophysiological mechanisms responsible for abnormal implantation remain poorly understood in both humans and animals (DeCecco *et al.*, 1984) [8]. Secondary or false extrauterine pregnancy has been reported sporadically in all domestic species except mares (Roberts, 1971) [1]. In such cases, the fetus initially develops to a recognizable stage within the uterus and subsequently escapes either into the abdominal cavity through a uterine rupture (abdominal pregnancy) or into the vagina through the cervix (vaginal pregnancy).

According to Roberts (1971) [1], extrauterine pregnancies generally occur during the last two-thirds of gestation, and previous reports of ectopic pregnancy in buffaloes have

consistently documented the presence of fully developed fetuses (Sheetal *et al.*, 2018) [11]. Broadly, two principal types of ectopic pregnancy are recognized. Tubal pregnancy occurs when a fertilized oocyte remains within the oviduct (Roberts, 1971) [1], whereas abdominal pregnancy refers to gestation developing within the peritoneal cavity (Corpa, 2006) [2]. Abdominal pregnancy may be further classified into primary and secondary forms. In the primary form, a fertilized ovum directly enters the peritoneal cavity and implants on the mesentery or abdominal organs. In contrast, the secondary form results from rupture of the uterus or oviduct after implantation, followed by expulsion of the fetus into the peritoneal cavity.

Animals carrying extrauterine fetuses often remain clinically normal, and diagnosis is frequently made as an incidental finding (Myung *et al.*, 2016) [6]. The etiology of fetal ectopia is commonly associated with trauma or rupture of the uterine wall or horn during pregnancy, as well as conditions such as hydroallantois (Osenko and Tarello, 2014) [5]. Uterine rupture may occur when strong expulsive efforts are exerted in the

absence of adequate cervical dilatation (Adams and Nairn, 1983) [3]. In the present case, the condition was most likely due to fetal escape through a tear in the uterine horn, possibly resulting from traumatic injury caused by slipping or physical impact from other animals.

Per rectal examination can aid in the diagnosis of advanced extrauterine pregnancy in cows and buffaloes by enabling palpation of fetal structures outside the uterus; however, detection during early or mid-gestation is rarely feasible. Uterine rupture is a serious secondary complication, often associated with prolonged dystocia, and requires immediate intervention due to the risk of secondary peritonitis (Kumar *et al.*, 2018) [4]. Prompt surgical management is essential in all cases of uterine rupture, as delayed treatment may lead to septic peritonitis and death of the dam (Prabaharan *et al.*, 2020) [7]. In the present case, caesarean section was successfully performed, and the buffalo recovered uneventfully following ten days of postoperative therapy, with no reported complications.

Hence the present study highlights that, false extra uterine pregnancy at advanced stage of pregnancy is an emergency obstetrical condition and this requires early diagnosis and timely surgical intervention to save the life of the dam.

Conflict of Interest

Not available

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