



Case Report

Cesarean Section in She Camel (*Camelus dromedaries*) in AL-Muthanna Veterinary Hospital, Iraq

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ABSTRACT

She camel dystocia is unusual case that can be corrected by using mutations, fetotomy, and Cesarean section. This article describes cesarean section technique that used to correct a dystocia in She camel. A six year old she camel (*Camelus dromedaries*) was presented to the AL-Muthanna Veterinary Hospital / Samawa / Iraq, with a history of restlessness, anorexia and dystocia for about 48 hours. Clinical examination revealed elevation in all vital signs with a tachycardia. The examination of genital system revealed swollen and partial opening vulva. During a rectal palpation, a large fetus was found in the uterus and birth canal. Accordingly, Cesarean section (CS) was decided as a best management for correction of this case. The she camel was restrained in sternal sitting position and routinely pre-operative preparation and anesthesia were done. An oblique ventrolateral approach was performed under local anesthesia at the left site. A dead fully formed fetus weighing 40 kg was extracted. Postsurgical management was included the administration of antibiotics and anti-inflammatory drugs along with multivitamin supplements and intra uterine therapy. A good recovery and healing of wound was occurred after 12 days, and skin sutures were removed. In conclusion, this study approved that cesarean section was the best management for correction of dystocia in She camel and should be performed as soon as possible in cases of camelids dystocia to rescue the calf life and preserve female fertility. Moreover, this study also approved that the left oblique ventrolateral approach was the practical and inexpensive method for caesarean section in She camel. For the authors knowledge this is the first article that describe the Cesarean section in *Camelus dromedaries* in Al muthanna province/ Iraq. The authors recommend to validate this technique in camelids as it is validate in all other animals.

Key words: *Camelus dromedaries*, Cesarean section, dystocia, Iraq, She camel

INTRODUCTION

The pregnancy period is highly variable in She camel varying from 315 to 440 days (Tibary and Anouassi, 2001). Parturition is a unique process with a variable of (2 - 6 hr) and (10 - 45 min) for the first stage and short second stage of labor respectively. The time for the complete process of parturition reported is 373.9 ± 38.2 min (Elias and Cohen, 1986). The mechanisms of parturition have been previously described (Zhao, 2000). The first stage of parturition started by signs of discomfort, restlessness, increased anxiety, dilating cervix then ends by breaking of the first water bag. By this time, the strength and frequency of abdominal contractions are increasing dramatically. The second stage of parturition is quick and characterized by the delivery of the fetus which can occur between 15 - 45 minutes after the breaking of the first water bag. The

parturition process is then complete by the expulsion of the fetal membranes which usually occur within 4 to 6 hours after fetal expulsion (Purohit, 2012; Roberts, 2012; Ali & Derar, 2015). In the camel dystocia is uncommon (Purohit, 2012). A few retrospective case studies have described the prevalence of both fetal (Purohit *et al.*, 2011) and maternal (Anwar *et al.*, 2013) causes of dystocia. Early diagnosis of dystocia and proper treatment are essential for good outcomes. The diagnosis is usually late in the field, and efforts to correct the difficult vaginally by inexperienced workers increase the risks of complications and unwanted outcome. The neck and extremities of the camel fetus are very long making tries to vaginal delivery useless in most cases and a decision to perform cesarean section must be taken as early as possible to ensure a desirable outcome (Purohit, 2012; Ali & Derar, 2015). Cesarean section is an emergency surgical procedure that can save the life of the

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she-camel and her calf if performed early enough after starting parturition (Agab, 2006; Long, 2007; Purohit, 2012). Cesarean section performed when manual vaginal delivery is not possible. This is one of the challenging surgeries performed on the farm as the surgeon has less control over the patient, environmental contamination, and lesser availability of assistance (Newman, 2008).

Review of literature revealed scarce publish articles that deal with Cesarean section in *Camelus dromedaries* worldwide and in Iraq. Consequently, this article intends to describe Cesarean section technique that used to correct a dystocia in She camel.

MATERIALS AND METHODS

Case history

A six year old She camel (*Camelus dromedaries*) was presented to the AL-Muthanna Veterinary Hospital / Samawa / Iraq, with a history of restlessness, anorexia and dystocia for about 48 hours. The clinical examination of the revealed elevation in all vital signs with a tachycardia. The examination of genital system revealed swollen and partial opening vulva. During a rectal palpation, a large fetus was found in the uterus and birth canal. Accordingly, Cesarean section (CS) was decided and discussed with the owner as a best management for correction of this case.

Preoperative, Control and Anesthesia

Cesarean section is mostly considered as an emergency surgery, thus preoperative fasting is not probable in camels. It is essential to care for general condition of the animal before attempting to perform a Cesarean section. She-camel was restrained in sternal recumbence. Both the fore and hind limbs were tight separately with a rope. Xylazine (0.25-2.2 mg/kg.B.W.) was administered intramuscularly, then local linear infiltration (50 ml of 2% lignocaine hydrochloride) was injected at the site of operation. As soon as the animal was sedated, it was secured in right lateral recumbency. (Kumar *et al.*, 2015).

Surgical approach and procedure

Cesarean section in this case performed via left oblique ventrolateral approach (Figure 1) (Tibary *et al.*, 2015; Ali *et al.*, 2016). A wide surgical field of operative site was prepared for aseptic surgery by clipping, shaving and washing the entire area with soap and water. After that 5 % povidone iodine was applied, followed by 70% surgical alcohol. A skin incision (30 cm long) starting parallel to the milk vein at distance (5 cm left lateral) toward the costal arch. After the skin and subcutaneous tissues were incised using sharp and blunt dissection, the underneath muscle layers were cut with scissors. In order to prevent inadvertent cutting through viscera, the peritoneum was grasped with tissue forceps and cut with scissors. A small incision was made into the peritoneum using the scissors and then the entire peritoneum was cut with the finger guiding the scissor.

The pregnant uterus was exposed (Fig. 2) through grasped over a fetal limb and brought to the operative site, then incised in the area of lower blood supply (Fig. 3). Then, the fetus was removed with the help of assistance (Fig. 4).



Fig. 1: Shows the left oblique ventrolateral approach with skin incision.

After removal of dead fully formed fetus (Figure 5), lose parts of the placenta was removed by cutting using scissors. Excessive traction of the placenta was not applied. The uterus was thoroughly washed and suckered (Figure 6) with (1 liters) of sterile saline before closure with double layer pattern using (Shmedin and Cushing) with chromic catgut no. 2 (Figure 7). Later on, the uterus outside wall was flushed using sterile saline solution and all blood clots was removed with sucker to prevent adhesion formation.

The uterus was replaced back in the abdominal cavity carefully to avoid the torsion of the genital tract. The abdominal cavity was inspected and cleaned from large blood and fibrin clots. Water soluble antibiotic solution of penicillin & streptomycin (20 ml) was poured within the abdominal cavity. The peritoneum and muscle layers were closed using simple continuous (Figure 8) sutures using chromic catgut no. 2. Meanwhile, the skin was closed with interrupted mattress sutures (Figure 9) using sterile silk (USP no. 2).

Post-operative care

Oxytocin (20-40 IU) was injected intravenously. Penicillin-Streptomycin (1 ml / 20 kg. b.wt.) was administered for 7 days, while Analgen (15 ml) was injected for 2 days. Suture line was sprayed with Oxytetracycline-spray every day. Skin sutures were removed at 12 days postoperatively. There were no post-operative complications at the site of surgical skin incision.

DISCUSSION

She camel dystocia is very rare case, nonetheless the curving of long neck and flexion of extremities of the fetal lead to develop dystocia. Fetal causes are more common for dystocia, moreover, uterine torsion, pelvis immaturity, uterine inertia and cervical dilation failure are maternal causes of dystocia in camelids (Purohit, 2012). There are different approaches used for correction of camelids dystocia including mutation, fetotomy and Cesarean section. Cesarean section are the easier and best approach for manage of dystocia in camelids because the difficulty of the correction of the fetal causes dystocia especially if the animal is presented after 12 hours of parturition. In this study the animal was presented too late, 48 hours after starting parturition and upon examination, a large calf was



Figure.2

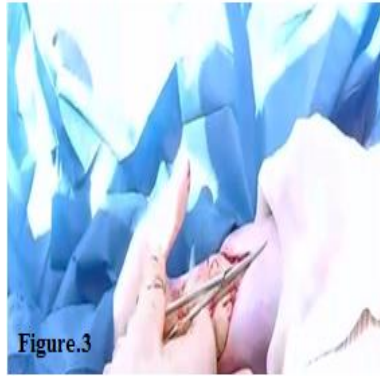


Figure.3



Figure. 4

Fig. 2: Shows the exposing the gravid uterus.

Fig. 3: Shows the technique for incised the uterus with scissors.

Fig. 4: Shows the method of removing of the dead fetus.



Figure.5



Figure.6



Figure. 7

Fig. 5: Dead fully formed fetus.

Fig. 6: Sucker uterus and abdomen.

Fig. 7: Uterus suturing.

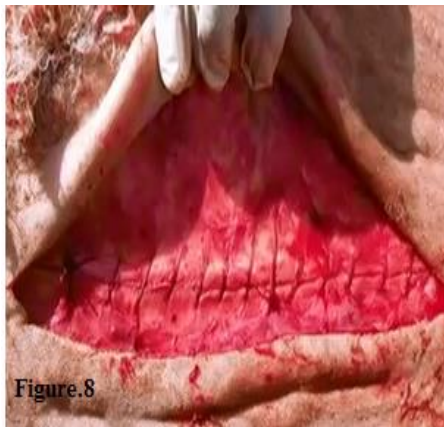


Figure.8



Figure.9

Fig. 8: Muscle layers were closed using simple continuous pattern.

Fig. 9: Skin suturing with simple interrupted Matters pattern.

found in the uterus and extended inside the birth canal. Moreover, a swollen and partial opening vulva was also found. Therefore, caesarian section was the suitable method for correction of dystocia in this case. A combination of anesthesia (Xylazine intramuscularly and local linear infiltration of lignocaine hydrochloride) were used in this case and revealed a good anesthetic effect during the operation and this procedure is compatible with previous researcher (Purohit *et al.*, 2011). In this study, an oblique ventrolateral approach was performed and this method provide a good opportunity to reach the gravid uterus easily. These observation is in agreement with other researcher (Siddiqui & Telfah 2010; Purohit 2012; Roberts

2012; Lopes 2013; Ali & Derar 2015; Kumar *et al* 2015; Tibary *et al* 2015; Ali *et al* 2016).

In conclusion, this study revealed that cesarean section was the best and the easier tool for correction of dystocia in She camel and should be performed as soon as possible in cases of camelids dystocia and it is significantly associated with better survival rates of both the dam and calf. Furthermore, this study also confirmed that the left oblique ventrolateral approach was the practical and inexpensive method for caesarian section in She camel. For the authors knowledge this is the first article that describe the Cesarean section in *Camelus dromedaries*, in Al Muthanna province/ Iraq and they recommend to validate this technique in camelids as it is validate in all other animals.

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