

Case Report

Successful Cesarean and Sterilization in Bitch First Case Report at University of Rajshahi, Bangladesh

Hemayatul Islam^{1*}, Jalal Uddin Sarder¹, Ismail Haque¹ and Khandaker Mazharul Anwar²

¹Department of Veterinary and Animal Sciences, University of Rajshahi, Bangladesh

²Khulna Agricultural University, Bangladesh

Abstract

A two and half years old German shepherd crossbreed bitch with a history of 48 days pregnant was reported to Veterinary Clinic, AI and Training Centre (VCATC) of the Department of Veterinary and Animal Sciences, Narikelbaria campus, University of Rajshahi, Bangladesh for sterilization. The owner Mr Md. Atiqur Rahman will to birth control of his bitch name Lily. At this moment there is no birth control procedure without spaying. We discussed with the owner about the birth control measure by ligation of with cesarean operation. Finally, we decided to do a cesarean operation with spaying as a birth control measure. Before surgery the bitch was kept in the RU Veterinary Clinic, AI and Training centre to evaluate its all physical parameters e.g. body temperature, respiration, pulse rate, anemia, dehydration etc. The surgery was aseptically controlled under general anaesthesia. Laparotomic midline incision 2 cm to 3 cm behind the umbilicus was performed. Delivery of 7 litters from Lily's uterus and ligation of the fallopian tubes, that is, the ovarian ducts. The bitch was kept in VCATC for 14 days for following up post-operative care. After 20 days the suture was removed. The bitch recovered uneventfully without any noticeable complication. So sterilization can be an effective method to control the dog population in Bangladesh.

Keywords: Bitch; Sterilization; Cesarean section and puppies

Introduction

The world the first laparoscopic procedure was performed in 1985, sterilization of a bitch by ligation of the uterine horns in Veterinary sector (Figure 1) [1,2]. The frequency of conducting cesarean section to relieve dystocia in canine is far higher than in large ruminants. It is possible that the small size of the animal, multiparous nature, a long duration of delivery and the demands by the owner to deliver as many live puppies as possible due to commercial considerations may force the obstetrician to increasingly employ cesarean section in bitches (Figure 2) [3]. Near about 58% of cases, the Cesarean section is performed on an emergency basis. Dehydration, hypovolemia, hypotension, exhaustion, hypothermia, toxemia, hypoxia, haemorrhage, and shock may be present if dystocia has been in progress for some time. There is an increased mortality risk for dams and decreased puppy survival when a cesarean section is performed on an emergency basis [4]. Puppy mortality associated with emergency cesareans was 12.7% compared with 3.6% for elective cesarean delivery small brachycephalic breeds (e.g. fetopelvic disproportion) [4], large breeds (e.g. uterine inertia), and prima gravid dogs are more predisposed to dystocia and are, therefore, more likely to undergo emergency cesarean section [5]. The available literature reports a few laparoscopic sterilization techniques in bitches, but no single technique has been reported as a standard routine sterilization program, keeping in mind

the minimum operative time and pain and stress to the patient [6]. Cesarean section of dogs used a variety of anaesthetic agents with their protocols. The basis for many of these protocols is extrapolated from experimental animal studies and human literature. Observed in some controlled veterinary studies comparing various anesthetic protocols successfully [6-12].



Figure 1: After general anesthesia of bitch.



Figure 2: Cesarean section to come out 7 puppies.

Citation: Islam H, Sarder JU, Haque I, Anwar KM. Successful Cesarean and Sterilization in Bitch First Case Report at University of Rajshahi, Bangladesh. World J Vet Sci. 2019; 1(1): 1002.

Copyright: © 2019 Hemayatul Islam

Publisher Name: Medtext Publications LLC

Manuscript compiled: August 02nd, 2019

***Corresponding author:** Hemayatul Islam, Department of Veterinary and Animal Sciences, University of Rajshahi, Bangladesh, Tel: 008801711156378; E-mail: hislam.islam@gmail.com



Figure 3: Lily's uterus and ligation of the fallopian tubes that is the ovarian ducts.



Figure 4: Cesarean section with sterilization of bitch.



Figure 5: Complete recovery of Lily's with her seven puppies.

Case history and description

An owner Mr. Md. Atiqur Rahman was a determination to birth control of his bitch name Lily. Lily came on 5th September 2018, about 2.5 years-old, 24 kg weighing German shepherd crossbreed bitch with history 48 days pregnant was brought to the Veterinary Clinic, AI and Training Centre (VCATC) of the Department of Veterinary and Animal Sciences, Narikelbaria campus, University of Rajshahi, Bangladesh for sterilization. At first general physical examination was done. The bitch had good body condition. Then blood sample was collected to do a routine examination of blood (PVC, Hb% and ESR). Almost all the parameter was within the normal limit (PVC-40%, Hb-12.5%) but, ESR increased to reach 20 (mm in 1st hour) levels and temperature slightly increased. After 7 days of observation, it was decided to spay the bitch.

Restraining and anesthesia

Both physiological and chemical methods were used to control the bitch. The bitch's mouth was tied with gauze to prevent her from biting during restraining. The surgical site was located in the caudal midline 2 cm behind the umbilicus. After cleaning and shaving, the surgical site was soaked in povidone-iodine 10% Solution. The bitch was kept under fasting condition for 12 hours. Atropine sulfate (0.02 mg/kg, SC) used as pre-anesthetic medication and diazepam 0.1 mg/kg to 0.4 mg/kg (inj. Sedil® Square Pharmaceuticals and ketamine 5 mg/kg given IM injection (Inj. Kein® Renata pharmaceuticals Ltd., Dhaka, Bangladesh) was applied for anesthesia (Figure 3 and 4). Anesthesia was maintained subsequently with ketamine and diazepam to effect and its depth was assessed clinically by pedal reflex and jaw reflex. After induction of anesthesia, a retrobulbar nerve block was performed using 2 ml of 2% lidocaine. Eye position was graded after retrobulbar block and IOP was examined preoperative, post-anesthetic, 6 h postoperative and 24 h after surgery. The maintenance anaesthetic dose was given @half of the initial dose during the surgery.

Surgical procedure

The patient was placed in operation table and remove hair by clipping and saving the operative site. The surgery was aseptically controlled under general anesthesia. Laparotomic mid line incision 2 cm to 3 cm behind the umbilicus was performed. At first 4 cm long incision was made on skin. The bleeding was checked by applying gauge pressure and artery forceps. An incision was made from the bellybutton to the pubis of the dog. The subcutaneous tissues and fats were removed. Then muscles and peritoneum were incised layer by layer. Large veins were ligated to check hemorrhage. Now the abdomen was opened, the uterus was brought to the surface. One horn was pulled up and carefully incised. The hole was large enough for the pups to be pulled through. The first uterine horn was placed back in the body, and the process was then repeated with the second uterine horn. By this way seven puppies were out. After that ligation between Lily's uteri and the fallopian tubes, that is, the ovarian ducts. The broad ligament arteries were ligated just in front of the cervix leaving the cervix as the natural barrier. The abdomen was checked for bleeding. The peritoneum and muscle layers were sutured with simple continuous pattern with catgut (1-0). The subcutaneous layer was sutured with subcuticular pattern using catgut (1-0). The outer skin placed in position and was used cross-mattress suture pattern with silk to close the opening. Finally, the sutured wound was covered with the benzoin seal.

Postoperative treatment and care

After surgery, antibiotic ceftriaxone @20 mg/Kg body weight (Inj. ceftrone 1gm®, Square Pharmaceuticals, Bangladesh) was administered intramuscularly daily for 7 days. Antihistaminic chlorpheniramine maleate @1 mg/ Kg body weight (Inj. Dillergen Renata® pharmaceuticals Ltd., Dhaka, Bangladesh) was administered intramuscularly daily for 7 days. Analgesic meloxicam @40 mg/Kg body weight (Inj. Mel-vet®, Acme Laboratories Ltd, Bangladesh) was administered subcutaneously daily for 3 days for pain management. The patient was reserved in clean cage and observed for 14 days. There is no complication of bitch and she recovered uneventfully within 14 days. At the 21 day, the suture was removed and it was noticed that the surgical site was healed completely and puppies were playing with their mother (Figure 5).

Conclusion

In conclusion, first case report to come out seven puppies with sterilization was successfully done by caesarean section of bitch at University of Rajshahi, Bangladesh.

Acknowledgment

The authors were greatly acknowledged to Veterinary Clinic, AI and Training centre (VCATC) of the department of Veterinary and Animal Sciences, Narikelbaria campus, University of Rajshahi, Bangladesh, Lily's owner Mr. Atiqur Rahman, Mr. Ziaur Rahman who continuous support to recover the bitch with its babies properly.

References

1. Wildt DE, Lawler DF. Laparoscopic sterilization of the bitch and queen by uterine horn occlusion. *Am J Vet Res.* 1985;46(4):864-9.
2. Lhermette P, Sobel D. Rigid endoscopy: Laparoscopy. In: BSAVA Manual of Canine and Feline Endoscopy and Endosurgery. (Lhermette P, Sobel D, Eds.). British Small Animal Veterinary Association. Gloucester. 2008;pp:158-73.
3. Murthy N, Devaraj M, Krishnaswamy A, Honnappa TG. Relative Efficacy of Various Treatment Procedures Employed To Relieve Dystocia In Canines Department of Veterinary Gynecology and Obstetrics Veterinary College, Hebbel, Bangalore. *Indian J Animal Reproduct.* 2014;35(1).
4. Moon PF, Erb HN, Ludders JW, Gleed RD, Pascoe PJ. Preoperative management and mortality rates of dogs undergoing cesarean section in the United States and Canada. *J Am Vet Med Assoc.*1998;213(3):365- 9.
5. Gaudet DA. Retrospective study of 128 cases of canine dystocia. *Agris.* 1987;21(6):813-8.
6. Funkquist PM, Nyman GC, Löfgren AJ, Fahlbrink EM. Use of propofol-isoflurane as an anesthetic regimen for cesarean section in dogs. *J Am Vet Med Assoc.* 1997;211(3):313-7.
7. Thurmon JC, tranquilli WJ, Benson GJ. Lumb and Jones' Veterinary Anesthesia, 3rd ed. Baltimore. Williams and Wilkins;1996.
8. Brock N. Anesthesia for canine cesarean section. *Can Vet J.* 1996;37:117-8.
9. Paddleford RR. Anesthesia for cesarean section in the dog. *Vet Clin North Am Small Anim Pract.*1992; 22(2):481-4.
10. Benson GJ, Thurmon JC. Anesthesia for cesarean section in the dog and cat. *Mod vet pract.* 1984; 65(1):29-32.
11. Evers WH. Epidural anesthesia in the dog: a review of 224 cases with emphasis on cesarean section. *Vet Med Small Anim clin.* 1968(12);63:1121-4.
12. Luna SP, Cassu RN, Castro GB, Teixeira Neto FJ, Silva Júnior JR, Lopes MD. Effects of four anaesthetic protocols on the neurological and cardio respiratory variables of puppies born by caesarean section. *Vet Rec.* 2004;154(13):387-9.

