

**CORRECTION OF UMBILICAL HERNIA ALONG WITH SPAYING
OF A CAT AT TEACHING & TRAINING PET HOSPITAL AND
RESEARCH CENTER,DHAKA: A CASE REPORT**



A clinical report submitted by

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Session: 2016-2017

Report presented in partial fulfilment for the degree of

Doctor of Veterinary Medicine (DVM)

**Faculty of Veterinary Medicine
Chattogram Veterinary and Animal Sciences University.
Khulshi, Chattagram-4225**

November 2022

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A clinical report submitted as per approved by style and content

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November 2022

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ABSTRACT

The purpose of the present case report was to describe a surgical approach for correction of umbilical hernia with spaying in a cat. The case was recorded in the Teaching and Training Pet Hospital and Research Centre (TTPHRC), Purbachal, Dhaka during an internship placement. An eight-month-old mixed breed female un-spayed cat weighing 2.7 kg was presented to TTPHRC with a history of swollen on umbilical region. On ultrasonography it was confirmed that an umbilical hernia case. The owner was also eager to spay his cat to control unexpected pregnancy. So, the correction of umbilical hernia and spaying were done at a time. General anesthesia was given and maintained throughout the surgery. The operation went well, as a part of post-operative care, it was advised to be kept that patient in a clean squeeze cage for seven days to observe. It was also suggested to provide povidone-iodine ointment as antibacterial until it healed completely. Systemic antibiotic, pain killer were also administered. There were no difficulties during the follow-up of the patient.

Key words: Umbilical hernia, cat, surgical correction, spaying.

CHAPTER I

INTRODUCTION

1.1 General Introduction and background:

An umbilical hernia is a protrusion (outward bulging) of the abdominal lining, abdominal fat, or a portion of abdominal organ(s) through the area around the umbilicus (also called the navel or belly button).

Before birth, the umbilical blood vessels pass through the umbilical ring (an opening in the abdominal muscles) to provide nourishment to the developing fetus. An umbilical hernia is caused by the incomplete closure of the umbilical ring after birth. The hernia generally appears as a soft swelling beneath the skin and it often protrudes when the cat is standing, meowing, crying, or straining (Lundgren, 2010).

Some hernias are reducible, meaning that the protrusion can be pushed back into the abdomen while others are non-reducible indicating at least partial obstruction or adhesion of the herniated contents to the opening. (Smeak, 1989).

Umbilical hernia can be corrected during spaying (Ovariohysterectomy). Ovariohysterectomy (OVH) is an irreversible technique (Davis, 2010; Kirsan et al., 2013) which is used for the sterilization of the female animal, making docile the animal. It is also done to protect them from certain diseases (Janssens and Janssens, 1991). Spaying is the most common among elective surgeries (Pollari and Bonnett, 1996) where surgery was done under proper general anesthesia and sterile operating technique (Virginia et al., 2012). This is usually done by a small incision on her left hand side and can also be done underneath along her midline (Machado et al., 2012). So, during OVH, umbilical hernia can be corrected easily at a time. If the hernia is not closed by the time of spaying or neutering then the surgical repair is recommended (Hunter & Ward, 2017).

1.2 Objective:

1. To perform and evaluate the traditional surgical technique for correction of umbilical hernia during spaying of cat.

CHAPTER II

MATERIALS AND METHOD

2.1 Case history and description:

An eight-month-old mixed breed female un-spayed cat weighing 2.7 kg was presented to TTPHRC with a history of swollen on umbilical region. Physical examination revealed that body temperature was slightly higher than normal there was swollen on umbilical region On ultrasonography it was confirmed that an umbilical hernia case. The owner also wanted to spay her cat. So, surgical correction of umbilical hernia and spaying was done at a time.

2.2 Anesthesia and control:

The patient was controlled by using both physical and chemical method. As pre-anesthetic Xylazine was used at the dose of (1mg/kg) body weight to make calm and sedate the patient. Before surgery the surgical site was aseptically prepared by proper clipping and shaving. The patient was given H-S saline intravenously as fluid therapy. For general anesthesia (GA), a mixture of diazepam-ketamine was given (0.3 mg/kg and 5.5mg/kg body weight, respectively) intravenously.

2.3 Operation procedure:

This research planned to correct the hernia and spay the cat at a time. To ensure the patient safety we always focused on the hygiene and pain management procedure during surgery. We used a sterilized general surgical pack. Anesthesia was properly given and maintained. The patient was kept on the operation table and covered with sterilized draper keeping the operative site open. A 1-2 cm long incision was done at caudal midline about 2cm below the umbilicus on the skin. The bleeding was checked by applying gauge pressure and artery forceps. Subcutaneous tissue, muscle and peritoneum were incised sequentially. After completion of incision in all layers, fibrous or scar tissue around the hernia was removed and the protruded part was pushed inside. Then the surgeon's index finger was introduced

toward the left flank into the abdominal cavity, the uterine horn was identified by fingers and ovaries were found following the horn to their ends. The ovary was grasped between thumb and index finger, withdrawn for ligation. A large opening was made in the broad ligament with fingers to expose the ovarian attachment with its blood vessels. A double ligation of catgut (1-0) was used to ligate ovarian pedicle. The attachment between the ligature and the ovary was removed. After removing one ovary, another one was also removed by similar manner. The body of uterus was removed from the abdomen. The uterine vessels were ligated on each side and separated. Then uterine stump was checked carefully to prevent hemorrhage. Peritoneum, muscle layers and fascia were sutured separately by simple continuous suture pattern using catgut (1-0). Then subcuticular suture was done with catgut (2-0) and skin was sutured by horizontal mattress suture with non-absorbable nylon suture material. After completion of sutures on the skin, Antiseptic povidone Iodine (ointment Povin) was given on the incision line then the site was covered with the benzoin seal.

2.4 Post-operative treatment and care:

After surgery, an antibiotic ceftriaxone @ 20mg/kg body weight (Inj. Ceftron IM 250mg) was administered intramuscularly for 5 days. Antihistaminic chlorpheniramine maleate @ 0.5 mg/kg body weight (Inj. Alerin 10ml) was administered intramuscularly for 5 days. Analgesic meloxicam @ 0.2 mg/kg body weight (Inj. Melvet 10ml) was administered subcutaneously for 3 days. The animal was suggested to keep in clean squeeze cage and to observe for 7 days. The owner was suggested to provide antiseptic povidone Iodine ointment on the incision site until completely healing

CHAPTER III

RESULT & DISCUSSION

RESULT:

The operation was successful as the cat recovered from anesthesia. After recovering from anesthesia, the patient was sent to his owner house. A guideline was given to the owner and suggested to administer drugs regularly as prescribed. There was no difficulty found during follow-up of that patient. At the 11th day of surgery the incision site healed properly and the patient became completely well.

DISCUSSION:

Hernia is a bulge of skins that contain body cavity contents and pass through a weak area in the body wall. This could happen accidentally or as a result of a natural anatomical opening that doesn't fully serve its functional purpose (Sutradhar et al., 2009). Anatomically Hernia consists of three parts, Hernial Ring, Hernial Sac and Contents (Amresh, 2009). If the hernial region is around the umbilicus, it is called umbilical hernia. (Doijode, 2019). Most umbilical hernias cause no health threats. In rare case, a portion of the intestines other tissues can get trapped and become strangulated (blood flow is cut off to the tissue causing its death). In that case it is an emergency requiring immediate surgery. The prognosis of surgical correction of umbilical hernia is excellent. In this case study correction of umbilical hernia and spaying was done at a time. During the surgery small incision was made along midline where there are fewer blood vessels in case of dog and cat (Jason, 2009). The same procedure was used in this study when it came to spaying. According to Burrow and Batchelor (2005) there may be some complications associated with the suture material or ligatures which included hemorrhage, abdominal wall dehiscence, surgical wound infection, stump granuloma, fistulous draining tracts, inadvertent ureteral ligation, and chewed-out sutures. But we didn't face such complications. Previous study found that, spaying can prevent reproduction and make the animal docile (Janssens and Janssens, 1991). It can also help to protect them from uterine infection, uterine cancer and other cancers of the reproductive system. The operation was successful which was similar with the operation performed by others (Janssens and Janssens, 1991; Azizunnesa et al., 2017).

CHAPTER IV

CONCLUSION

Most of umbilical hernias pose no health threats. But sometimes it can be detrimental if organs become strangulated by obstruction of blood flow. The prognosis following surgical correction is excellent. Correction of umbilical hernia during spaying was a quick, practicable, field applicable, and reliable method. This surgical technique for correction of umbilical hernia during spaying could be recommended for field condition. However, further study is recommended to make the procedure easier.

FIGURES



Figure 1: Preparation of incision site by shaving. Povidone iodine and alcohol were used properly to sterilize the incision area.



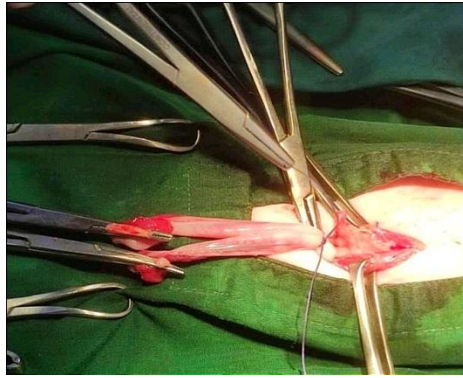
(A)



(B)

Figure 2: Covering with sterilized draper keeping the operative site open (A). Then Incision was done 2cm behind umbilicus and removing of scar tissue on the hernia site (B).

FIGURES



(A)



(B)

Figure 3: Exposing of ovaries and uterus outside the incision (A). Then ligation, cutting and removal of ovaries with uterus (B).

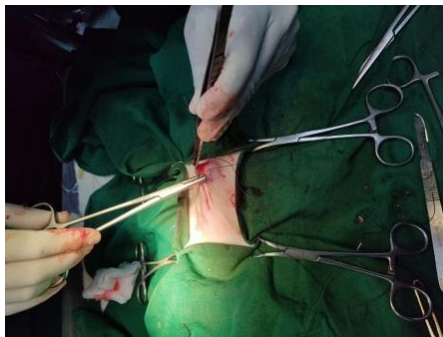


Figure 4: The rest parts were push back into the peritoneum after removal of uterus and ovaries. The peritoneum and muscle layers were sutured with simple continuous pattern with catgut (1-0). The subcutaneous layer was sutured with subcuticular pattern using catgut (1-0). The skin was sutured using simple interrupted suture.

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ACKNOWLEDGEMENT

I first praise to my creator Almighty Allah for causeless compassion and enable me to pursue this study in this field of science and to complete this clinical report writing for the degree of Doctor of Veterinary Medicine (DVM). I feel great pleasure to express my deepest sense of gratitude and indebtedness to my beloved and reverend supervisor **Professor Dr. Md. Rayhan Faruque**, Director (Veterinary Clinics) and Professor, Department of Medicine & Surgery, Chattogram Veterinary & Animal Sciences University, for his scholastic guidance, valuable suggestion, sympathetic supervision, encouragement throughout the entire period of my study. I cannot but express my heart squeezed gratitude, deepest sense of thankfulness and appreciation to all of my teachers for their constant inspiration & cooperation.

I would like to express my deep sense of gratitude and thanks to **Professor Dr. Gautam Buddha Das**, honorable vice chancellor; **Professor Dr. A.K.M. Saifuddin**, Director, external affairs and **Professor Dr. Mohammad Alamgir Hossain**, Dean, Faculty of Veterinary Medicine, CVASU for arranging this type of research study as a compulsory part of this internship program.

Last of all I am ever indebted to my parents for their sacrifices, blessing and encouragement to get me in this position.

The Author
November 2022

BIOGRAPHY



I am **Md. Riyadul Hasan**, son of **Md. Rafiqul Alam** and **Mst. Rokhsana Alam**. I completed my secondary school certificate (SSC) in 2013 from Thanahat A.U Pilot Govt. High School and Higher Secondary School Certificate (HSC) from Cantonment Public School & College, Dinajpur in 2015. Now I am doing my graduation at Chattogram Veterinary and Animal Sciences University. As an upcoming veterinarian I would like to dedicate my rest of life for the welfare of animals and I am trying my best to be an expert veterinarian.