A Case Report on Spaying a Cat

A clinical report submitted in partial satisfaction of the requirement for the Degree of Doctor of Veterinary Medicine (DVM)

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Abstract

Spaying is considered a reliable surgical method for birth control and preventing potential feline reproductive diseases. The present case report describes a surgical approach for spaying a cat. The case was recorded in the Teaching and Training Pet Hospital and Research Centre (TTPHRC), Purbachal, Dhaka during an internship placement. A 2-year-old native breed domestic shorthair female cat weighing 3.25 kg was brought into the TTPHRC. The decision to spay the cat was made by the owner to prevent unwanted breeding. The spaying operation was performed under general anesthesia with following the standard open surgical method. As a part of post-operative care systemic antibiotic, pain killer and antihistaminic were administered. In addition, it was recommended that an antibiotic ointment containing povidone-iodine be used on the wound until complete healing. Following surgery, the owner was requested to keep the animal indoor in a tidy squeeze cage to restrict the movement. No complications were noted and the cat had an uneventful recovery.

Keywords: Cat, Spaying, Birth control.

Introduction

Spaying is the common term used to describe the surgical procedure known as an ovariohysterectomy. It is commonly performed in small animals worldwide as a mean of population control (Levy and Wilford, 2013; Murugesan et al., 2020). In this procedure, the ovaries and uterus are removed completely in order to sterilize a female cat (Omeran et al., 2014). It is imperative that any cat that has access to the outdoors be spayed for the sake of avoiding unintended pregnancies. Cat breeders will often elect spaying of their breeding stock they no longer wish to breed with and to enforce breeding restrictions on kittens they sell to a new owner.

Although the primary intention of spaying is to sterilize the pet, there are several health and other benefits. The medical benefits include decreased risk of ovarian and uterine malignancies, as well as a reduction in the risk of breast cancer in female cats (Care and Sanborn, 2007; Terriers and Lane, 2007). Cats that have not been spayed run the additional danger of getting pyometra, a potentially fatal condition of the uterus that can only be treated surgically (Berzon, 1979; Russell et al., 2003).

Before a female cat reaches sexual maturity and can reproduce on her own, it should be spayed as a preventative measure (Fossati, 2022). This often occurs somewhere between the ages of four and six months old (Farnworth et al., 2013). Under general anesthesia, the surgical procedure known as spaying is carried out. A relatively small incision is made in the patient's belly, typically in the middle of the abdominal wall, just below the umbilicus, so that the surgeon can execute the procedure (Bushby, 2012; Gates et al., 2020). In this procedure, the uterus and both ovaries are taken out at the same time. The incision made during surgery will have multiple layers of sutures applied to it before it is closed. Sutures will be inserted in the skin in the majority of cases, and they will be removed between 7 and 10 days later (Eugster et al., 2004).

In the past, there have been investigations on the practice of spaying cats in Bangladesh (Azizunnesa et al., 2017; Das, 2019). However, additional study is required to learn more with regard to the enhancement of spaying techniques for cats. Consequently, the purpose of this case

report was to describe a conventional surgical approach of spaying a cat in order to strengthen its effectiveness as a method of contraception.

Case descriptions

A 2-year-old native breed of domestic shorthair female cat with 3.25 kg body weight was brought to the Teaching and Training Pet Hospital and Research Centre (TTPHRC) at Purbachal in Dhaka. Due to limited amount of space at her home, the owner of the cat wanted to get it spayed to prevent unwanted breeding and to make it more docile. A complete physical examination was carried out before the surgery, and the cat was found to have a normal body condition. It had a respiration rate of 19 per minute, a heart rate of 71 beats per minute, and pink mucous membranes with no signs of dehydration. No blood test or ultrasonography was carried out.

Restraining and anesthesia

Both physical and chemical methods were used to restain the cat. The cat was pre-medicated with xylazine @1.0 mg/kg body weight intramuscularly. After the necessary trimming and shaving, the surgical site was cleaned and sterilized for the operation(Fig-1). The anesthetic protocol consisted of intravenous administration of the combination of diazepam and ketamine hydrochloride at a ratio of 1:4 to produce a general anesthetic effect. Fluid therapy was instituted with normal saline administered intravenously.

Surgical procedure

Caudal midline abdominal incision was used to expose the uterus and ovaries for removal. In the caudal midline, about two fingers' distance below the umbilicus, a 1-centimeter incision was made. Maintaining tension on the incision, subcutaneous tissue, muscle and peritoneum were incised. Following incision, the index finger was inserted toward the left flank into the abdominal cavity, the uterine horn, and the broad ligament. After this, it was removed from the outside of the body. The ovary was grasped between the thumb and index finger, and then withdrawn to do the ligation. Ovary's suspensory ligament was ruptured as a result of manual traction with the finger. By making

a large incision with the fingers in the broad ligament, the ovarian connection as well as its blood vessels were revealed. A double chromic catgut ligation was used to ligate the ovarian pedicle(Fig-3). Both the attachments to the ligature and the ovary were cut off completely(Fig-4). After the surgery of the first ovary, the second one was removed in the same way. The body of the uterus was extracted from the abdominal cavity. Both sides had their respective uterine vessels ligated and separated throughout the procedure. After that, a careful inspection of the uterine stump was performed to rule out the possibility of bleeding. Each of the peritoneum, muscles, and fascia were given their own set of sutures using 1-0 catgut in a straightforward pattern of continuous suturing(Fig-5). After that, subcuticular sutures made of 2-0 catgut were used.

Post-operative care

Following surgery, ceftriaxone @ 20 mg/kg body weight (Ceftron IM 500 mg) and antihistaminic pheniramine-maleate @ 0.5 mg/kg body weight (Alerin 10 ml) were given intramuscularly for a period of five days. Meloxicam @ 0.2 mg per kg of body weight (Melvet 10 ml), was given subcutaneously for a period of three days to relief pain. The owner was advised to provide a quiet place and keep the animal indoor in a tidy squeeze cage to restrict movement. The owner was also requested to apply an antibiotic ointment containing povidone iodine on the incision site until complete healing of the wound.

The entire operation was successful and proceeded according to plan. Throughout the entire process, the OT room was kept in an appropriate state of cleanliness and sterility. After a period of 14 days following the surgery, the cat regained its full health.

Figures

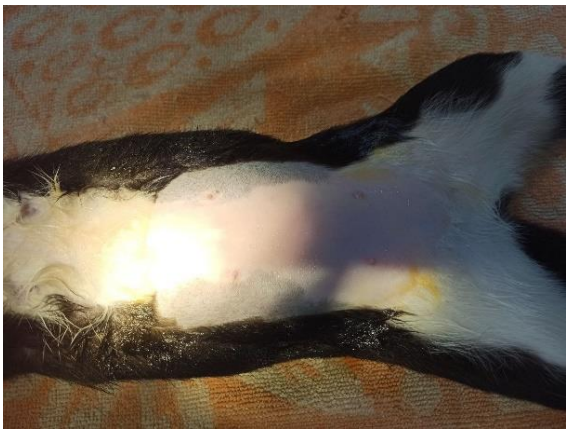

Fig-1: Preparation of Surgical Site

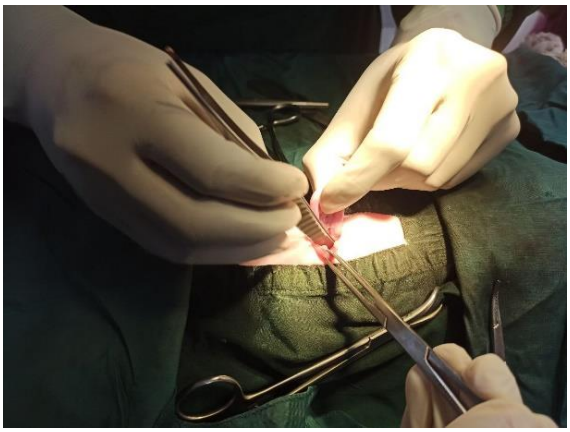

Fig-2: Locating Horn of Uterus

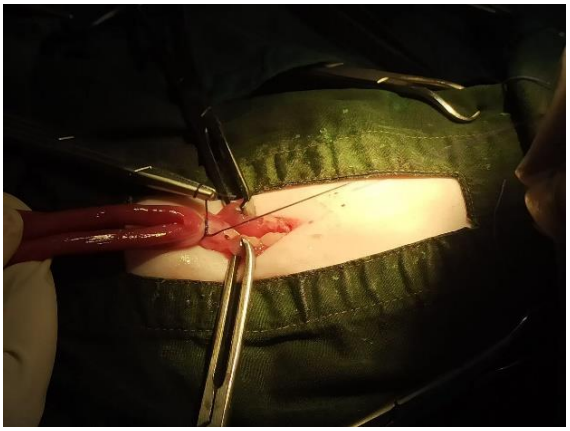

Fig-3: Ligating Uterine Body

Fig-4: Dissected Portion of Uterus

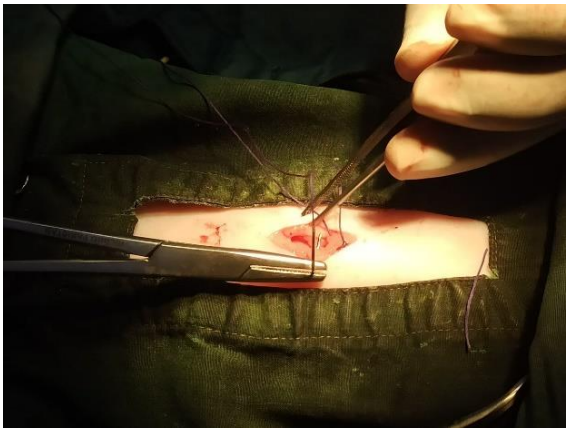

Fig-5: Suturing Muscle and Peritoneum

Fig-6: After a Successful Surgery

Discussion

The uterus and both ovaries were successfully removed during the operation without any complications which contributed to its favorable outcome. There were several complications reported by different researchers (Bohling, 2020; Levy et al., 2017; Pollari & Bonnett, 1996). The post-operative care was adequately administered, there were no complications detected after the operation. The wound at the incision site healed up well.

The animal underwent the surgical technique that was detailed in this case in order to make it more docile and to stop it from having unintended offspring. In a previous study, the researchers discussed the usefulness of spaying as a method for controlling the animal's behavior and stopping it from reproducing (Janssens & Janssens, 1991). The animal is also protected from uterine infections, uterine cancer, and other cancers that affect the reproductive system when it is spayed, which is another advantage of the procedure.

Anesthesia of the general kind is administered throughout the procedure. After being trimmed and shaved, the abdominal region is cleansed. In the case of dogs and cats, a relatively modest incision is typically made in the midline, where there are fewer blood arteries. In this investigation, the operation was carried out in the same fashion as in the previous one. In order to detect the uterus and the uterine horns, a general surgical procedure was used. Following the ligation of the blood vessels, the uterus, ovaries, and fallopian tubes were extracted in their entirety. Following the closing of the inner layer of the body wall using absorbable suture material, the outer layer of the skin was subsequently closed.

In some additional investigations, both cats and dogs that had undergone spaying were reported to experience postoperative problems. Nevertheless, neither problems nor any more bleeding was discovered in this case.

It was a successful operation that was very much like the operation that had been mentioned in previous studies (Azizunnesa et al., 2017; Janssens & Janssens, 1991; Rowan & Williams, 1987).

Conclusion

Spaying a cat is an age-old surgical practice that has been demonstrated time and again to yield the best results. It was an approach to spaying cats that was uncomplicated, doable, tried and true after being tested in the field. During the entirety of the inquiry, the spayed cat's follow-up appointments did not present any challenging issues. Spaying is a common surgical treatment that can be used to lessen the aggressiveness of a field condition and prevent reproduction.

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Biography of Author

This is Injamamul Hasnine, the second child of Md. Layek Ali and Umme Salma, doing his graduation on Doctor of Veterinary Medicine (DVM) at Chattogram Veterinary and Animal Sciences University under Faculty of Veterinary Medicine. He passed the Secondary School Certificate Examination (SSC) in 2014 from Collegiate School, Chattogram and got a GPA of 5.00, and then Higher Secondary Certificate Examination (HSC) in 2016 from Cambrian School and College, Chattogram and got a GPA of 5.00 out of 5.00. Currently, he is doing his yearlong internship. He has great enthusiasm in his study area to develop day one skills and gain more practical knowledge to be prepared for the modern era of science.