

**STUDY ON SPAYING (OVARIOHYSTERECTOMY) IN CAT AT
TEACHING & TRAINING PET HOSPITAL AND RESEARCH
CENTER(TTPHRC),DHAKA – 5 CASES**



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CONTENTS

CHAPTER	NAME OF CONTENTS	PAGE
	ABSTRACT	
I.	INTRODUCTION	5
II.	MATERIALS AND METHOD	6-11
III.	RESULT AND DISCUSSIONS	12
IV.	CONCLUSION	13
	REFERENCES	14
	ACKNOWLEDGEMENT	15

ABSTRACT

Ovariohysterectomy(spaying) is the surgical removal of queen (female cat) ovaries and uterus for the purpose of feline population control, The objectives of this study is to evaluate surgical efficacy of spaying at TTPHRC,Dhaka.The surgery was performed at the surgery unit, TTPHRCfrom 23.02.2020 to 29.02.2020. A total number of 5 cases of spaying were performed. All 5 animals were healthy and different breed. The surgery was done in ventral midline laparotomy approach with standard aseptic procedure, xylazine and ketamine anaesthesia and followed proper post-operative care. The results revealed no anesthetic complication intra-operatively as well as no intra-operatively and post operative complications.So; the study concluded that spaying with xylazine and ketamine anaesthesia and ventral mid line approach can be used in field condition as standard surgical technique in cat.

Key words: Anesthesia, ovariohysterectomy, queen

INTRODUCTION

Ovariohysterectomy (OVH) is a medical term used to indicate spaying or neutering a female cat. Ovariohysterectomy is one of the most routinely performed major abdominal surgeries in the veterinary practice (Pearson, 1973; Jason, 2009). Ovariohysterectomy (OVH) is an irreversible technique which is used for the sterilization of the female animals (David, 2010; Kirsan et al., 2013). Spaying is indicated for prevent oestrous & unwanted offspring, prevention and treatment of pyometra, metritis, neoplasia, uterine torsion, uterine prolapse, vaginal prolapse, vaginal hyperplasia, prevention of mammary tumors or congenital anomalies, dystocia patients with devitalized uterus. Surgery is usually performed at 4-8 months of age but preferred at the age of 6 month or more. The surgery was performed by using caudal midline incision where surgery was done under proper general anesthesia and sterile operating technique (Virginia et al., 2012). The traditional spaying usually is accessed through caudal midline incision, which frequently encompasses the half or the middle third of the umbilicopubic distance (Machado et al., 2012) and involves surgical removal of the ovaries and uterus.

It has some immediate or short-term surgical complications that include haemorrhage from uterine and ovarian vessels, anesthesia accidents, tissue reaction to suture material, wound infection(self licking), evisceration or delayed healing (Pearson, 1973; Muir et al., 1991; Burrow and Batchelor, 2005). But, we didn't found any complication in this 5 cases.

Different anaesthetics and surgical techniques are used by different surgeons in different countries but in Bangladesh aspect there was no standard anaesthetics and surgical techniques for spaying in literature. So objectives of this study are given below:

Objectives of the study:

- To evaluate the anesthetic efficacy of spaying in cat.
- To evaluate the surgical efficacy of spaying at TTPHRC

MATERIALS AND METHOD

2.1. Place and time of the study:

5 queens were brought to surgery unit of Teaching & training pet Hospital and researchcenter in between time of 23.02.2020 to 29.02.2020.

2.2. Selection of animal:

For spaying, selected the animal on the basis of clinical examination. Those animal which was registered and clinically healthy and also vital parameter was normal.

2.3. Clinical examination of bitch:

Naturally, we need to know if there are any health problems that might affect the surgery. A thorough physical and clinical examination was performed prior to every cases of spaying. All clinical parameters like heart rate, respiration rate, and temperature were recorded and that were normal. The attitudes of queens were normal in response to stimuli and other clinical findings like posture, gait were also normal. There were no abnormal discharge from eye, vagina and nose.

Table 1: Basic information of spaying animal

Queen name	Body wt.	Age	Vaccination	Abnormalities found
Alexa	2.0 kg	1 year	Done	None
Peabody	1.5 kg	8 month	Done	None
Merry	3.0 kg	1.2 year	Done	None
Putun	2.6 kg	1 year	Done	None
Barbe	2.4 kg	10 month	Done	None

Table 1 analysed that Lower age of cases from 8 month to highest 1.2 year. Body weight from 1.5kg to 3kg.

Table 2 : Clinical parameter of 5 cases

Name	Temperature	Res.rate	Heart rate
Alexa	101.2	22	135
Peabody	100.6	30	120
Merry	101.5	22	130
Putun	102	26	136
Barbe	101.6	20	130

Table 2 analysed that All parameter were normal before & after surgery.

2.4. Instruments and appliances used for aseptic surgery:

For aseptic surgery at first sterilized all basic instruments and appliances by autoclave at 121°C temperature, 15lb pressure/inch for 15 minutes. The following instruments and appliances were used for spaying:

Instruments for aseptic surgery:

- Scalpel
- Scissors (both straight and curve)
- Needle holder
- Needle (both traumatic and atraumatic)
- Alli's tissue forceps
- Rat tooth forceps
- Artery forceps
- Retractors
- Towel clamps
- Spaying hook

Appliances for aseptic surgery

- Towel and draper
- Cotton and gauge
- Mop
- Povidone
- Alcohol
- Shaving blade

2.5. Animal preparation for spaying:

The cat was kept under fasting condition for 12-18 hours. Both physical and chemical methods were used to control the cat. The cat's mouth was tied with a leash to prevent her from biting during restraining. The surgical site was located in the caudal midline immediately after the umbilicus, after cleaning and shaving the surgical site was soaked with a cotton pad, painting of the surgical site by using 10% povidone iodine and then sterilized by using 70% alcohol.



Fig 1: Shaving and cleaning the surgical site

2.6. Anesthesia of cat:

As pre anesthetic xylazine hydrochloride @1mg/kg body weight (inj.xylazine®@Indian immunological ltd, India) intramuscularly administrated. Dose used 1mg/kg body weight, depends on animal condition. After premedication, anesthesia was done by administering ketamine hydrochloride (Inj.G-ketamine®. Gonoshasthayapharmaceuticals ltd, Bangladesh) at the dose rate of 10mg/kg body weight intravenously. The maintenance anesthetic dose was given @half of the initial dose during the surgery. The normal saline was infused intravenously 3ml /min during surgery.

2.7. Surgical procedure:

The patient was placed in dorsal recumbent position in sterile operation table. Before starting the operation all sterilized instruments were setting in a tray. The animal was draped by exposing the operative area to maintain a sterile field around the operative site. Drapers were secured at the corners with the towel clamps. The surgery was aseptically controlled under general anesthesia. The surgeon was made an (3-4)cm long incision on the midline beginning over the umbilicus and extended caudally. Skin, subcutaneous tissue, muscle, peritoneum area were incised. The bleeding was checked by applying mops pressure and artery forceps. An index finger passed to locate the uterine horn instead of using overiectomy hook. Uterus and ovary were recognised. At first remove the left ovary, then right ovary and finally the body of uterus. The ovary was grasped between the thumb and index finger and withdrawn for ligation. A double ligature with chromic catgut size (1.0) is used to ligate ovarian pedicle. The lower stump checked carefully for haemorrhage and were severed. Another ovary was removed by same manner. The uterine double ligature were placed immediately proximal to the cervix by using catgut. A transfixing ligatures was then placed on the entire uterus, distal to the arterial ligatures by using catgut. The uterine body was grasped with forceps and severed between the suture and the forceps. Abdominal incision was closed. Firstly suturing the peritoneum and muscle together in a simple continuous pattern. Then gave subcuticular suture for apposition.

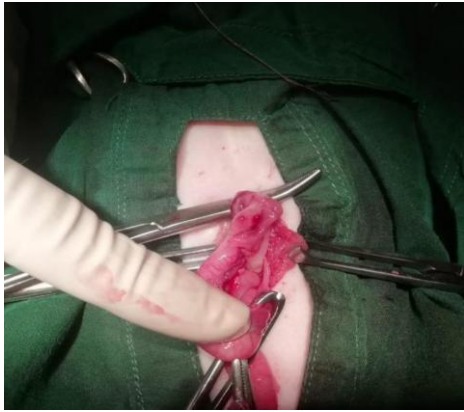


Fig 2: Exposing the ovary & uterus for spaying



Fig 3: Perform ligation in ovarian pedicle



Fig 4:Excision of ovary & uterus



Fig 5: Closing the abdominal cavity

2.8. Post operative treatment & care:

After surgery, antibiotic ceftriaxone @30 mg /Kg body weight (Inj. Ceftron[®]250mg, square Pharmaceuticals Ltd, Bangladesh) was administered intramuscularly daily for 5 days. Antihistaminic Diphenhydramine hydrochloride @1mg/ Kg body weight (Inj. Phenadrylvet[®], Acme Laboratories Ltd., Bangladesh) was administered intramuscularly daily for 5 days. Analgesic meloxicam @0.2 mg/Kg body weight (Inj. Melvet[®], Acme Laboratories Ltd., Bangladesh) was administered subcutaneously daily for 2 days for pain management. The patient was kept in owner house and observed for 7 days.

RESULTS AND DISCUSSIONS

Anesthetic efficacy:

There was no intra-operative anesthetic complication found in this cases by using xylazine as preanesthetic and ketamine as general anesthetic.

Surgical efficacy:

All surgery was done in ventral midline laparotomy approach and followed standard post operative care. There was no intra-operative and post operative complication found in those 5 cases.

Discussions:

All the operation was successful as the cats recovered from anesthesia and no complications were found. No extra bleeding was found. They were sent home after recovered anesthesia and treatment with systemic antibiotics for next five days. 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. In other study there was many types of pre anesthetics use in spaying of cat like Atropine sulphate, Diazepam, xylazine. I used xylazine as preanesthetic, Thiopental sodium, propofol, ketamine used as general anesthesia, In our hospital we using ketamine. There was no complication found after surgery. The operation was successful which was similar with the operation performed by Janssens and Janssens, 1991; Azizunnesa et al., 2017. It has some immediate or short-term surgical complications that include haemorrhage from uterine and ovarian vessels, anesthesia accidents, tissue reaction to suture material, wound infection(self licking), evisceration or delayed healing (Pearson, 1973; Muir et al., 1991; Burrow and Batchelor, 2005). However, in this study, no complications and no extra bleeding were noticed. So we can say that Spaying is effective surgery for cat at Teaching & training pet hospital and reaserch center.

CONCLUSION

In present study the conclusion is that by using xylazine as preanesthetics and using ketamine as anesthetics are effective for the spaying surgery of cat. On the other hand performing caudal mid line incision is effective surgical method for spaying. From this study we revealed that spaying is a quick, practicable, field applicable, and reliable method for prevent reproduction & efficacy of spaying at TTPHRC is higher. Spaying required less post operative care and the cure rate is also high.

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