ISSN: 0976-3031

Available Online at http://www.recentscientific.com

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 9, Issue, 12(D), pp. 30098-30099, December, 2018

International Journal of Recent Scientific Research

DOI: 10.24327/IJRSR

Research Article

SINGLE SUTURE OVARIOHYSTERECTOMY - A NOVEL MINIMALLY INVASIVE SURGICAL TECHNIQUE IN DOGS AND CATS

Madeena Begum M and Bhuvaneshwari V

Heart 2 heart Veterinary Hospital, No.3, Leith Castle Center Street, Santhome, Chennai-600028

DOI: http://dx.doi.org/10.24327/ijrsr.2018.0912.2985

ARTICLE INFO

Article History:

Received 06th September, 2018
Received in revised form 14th October, 2018
Accepted 23rd November, 2018
Published online 28th December, 2018

Key Words:

Minimally Invasive, Ovariohysterectomy, Dogs, Cats.

ABSTRACT

The study was carried to standardize a novel minimally invasive Ovariohysterectomy technique in dogs and cats. A total of 108 female animals which includes, 72 dogs and 36 cats which were brought to the Heart2heart Veterinary Hospital, for spay surgery were selected and underwent single suture ovariohysterectomy procedure. The technique was evaluated assessing the time taken for surgical wound healing and post-operative complications.

INTRODUCTION

Ovariohysterectomy was widely followed for neutering female animals to avoid undesirable behavior during pro-estrum and estrum, unwanted pregnancy, pseudo-pregnancy, pyometra and also to reduce the chance of occurrence of neoplastic tumors of mammary gland and reproductive tract. Traditional ovariectomy, ovariohysterectomy and hysterectomy the most commonly performed surgeries in veterinary practice (Smith and Seguin, 2014). The advantages of minimally invasive surgical procedures are minimal pain, reduced incidence of infection and short duration of hospitalization. They are performed in great numbers in human medicine whereas in veterinary medicine recently laparoscopic assisted minimally invasive procedures are practiced to spay the intact female dogs (Pukacz *et al.,* 2016).

MATERIALS AND METHODS

The study was conducted over a period of one years from March 2017 to April 2018. The dogs brought to the Heart2heart Veterinary Hospital, for spay surgery was selected randomly.

A total of 108 female animals which includes, 72 dogs and 36 cats were included in the study. In all the animals pre-operative blood was collected for complete blood count analysis and vaginal exfoliative cytology study was conducted to determine the stage of the estrus cycle. Surgery dates were fixed based on the pre-operative test results. All the dogs were premedicated with Inj. Diazepam @ 0.25mg/kg i.v and inj. Buprenorphine @ 0.02mg/kg i.v. Anaesthetic induction was done using inj. Propofol @ 4mg//kg i.v. and maintained with by 2-3 per cent Isoflurane in oxygen by inhalation, using Rebreathing (Circle) System. In case of cats anaesthesia was induced with 4 per cent Isoflurane in oxygen by mask induction technique and maintained with by 2 per cent Isoflurane in oxygen by inhalation using Bain circuit. In all the animals, ventral abdomen was shaved and scrubbed with 7.5 per cent povidone iodine solution. The Single Suture Ovariohysterectomy procedure was performed using Bard-Parker blade size 15. In dogs a 1.5 to 1.8 cm skin incision was placed in the mid ventral region starting one centimeter posterior to the umbilicus (Fig. 1) and in cats a 1.0 to 1.2 cm skin incision was placed midway between umbilicus and pubic symphysis (Fig. 1).

Fig 1 1.5 to 1.8 cm mid ventral skin incision (dog)

Blunt dissection of subcutaneous tissue was carried out using metzenbaum scissors. A stab incision was made into the linea alba to reach the abdominal cavity. The uterine horns and body were identified, exteriorized, ligated and excised along with both the ovaries (Fig. 3 & 4).

Corresponding author:* **Madeena Begum M
Heart 2 heart Veterinary Hospital, No.3, Leith Castle Center Street, Santhome, Chennai-600028

Fig 2 1.0 to 1.2 cm mid ventral skin incision (cat)

The linea alba and subcutaneous tissue was closed with appropriate size polyglycoloic acid suture material. The skin was opposed with appropriate size polyamide suture material using a single cross mattress and a water proof bandage (Tegaderm) was placed over the surgical site.

RESULT AND DISCUSSION

Post-operatively, all the animals were hospitalized and administered cefodoxime at dose of 22 mg/kg body weight *per os* once daily for 5 days. After complete wound healing, the skin suture was removed. Time taken for complete surgical site healing, Post-operative pain and complications were recorded and it was found that, in all the operated animals complete healing of the surgical wound has happened within 5 to 7 days, without any post operative pain or complications. In conventional ovariohysterectomy technique there will be a larger incision with greater extent of tissue damage due to more tissue manipulation, which leads to infection of the surgical site (Mayhew *et al*., 2012). Whereas in single suture ovariohysterectomy technique, the incision size, tissue manipulation, hemorrhage and tissue damage are very minimal when compare to the conventional ovariohysterectomy technique.

Suture dehiscence, hernia, seroma and more pain were the most common post operative complications of conventional ovariohysterectomy technique which results in increased surgical site healing time (Austin *et al.,* 2003). When compared to the conventional technique, Single Suture Ovariohysterectomy has faster healing and no post operative pain or complications. Laparoscopic assisted minimally invasive ovariohysterectomy technique involve expensive laparotomy equipments, special training, high cost and more personals. Surgical complications in those techniques include postoperative fever and anorexia, hemorrhage, intermittent vaginal hemorrhagic discharge and suture reaction (Davidson *et al.,* 2004) which were not observed in Single Suture Ovariohysterectomy technique.

Fig 3 Uterine horn along with ovary was identified and exteriorized (dog)

Fig 4 Uterine horn along with ovary was identified and exteriorized (cat)

Summary

The Single Suture Ovariohysterectomy technique was found to be more efficient and economical than conventional Ovariohysterectomy and other minimally invasive Ovariohysterectomy techniques in terms of surgical site healing time, post-operative pain and complications.

References

Austin, B., Lanz, O. I. Hamilton, S. M. Broadstone, R. V. and Martin, R. A. (2003). Laparoscopic Ovariohysterectomy in Nine Dogs. *J. Am. Anim. Hosp. Assoc.,* 39: 391-396.

Davidson, E. B., Moll, D. H. and Payton, M. E. (2004). Comparison of Laparoscopic Ovariohysterectomy and Ovariohysterectomy in Dogs. *Vet. Surg.,* 33: 62-69.

Mayhew, P. D., Freeman, L. Kwan, T. and Brown, D. C. (2012). Comparison of surgical site infection rates in clean and clean-contaminated wounds in dogs and cats after minimally invasive versus open surgery: 179 cases (2007–2008). *J. Am. Vet. Med. A.,* 240: 193-198.

Pukacz, M. Kienzle, B. and Braun, J. (2009). Simple, minimally invasive technique for ovariohysterectomy in the dog. *Vet. Rec.,* 165: 688-690.

Smith, T. J. and Séguin, B. (2014). Ovariectomy and Ovariohysterectomy. In: Text book of small animal surgery. Monnet, E. eds., *John Wiley & Sons,* New Jersey, p-651-658.

How to cite this article:

Madeena Begum M and Bhuvaneshwari V.2018, Single Suture Ovariohysterectomy - A Novel Minimally Invasive Surgical Technique in Dogs and Cats. *Int J Recent Sci Res.* 9(12), pp. 30098-30099.
DOI: http://dx.doi.org/10.24327/ijrsr.2018.0912.2985

****