

# EXPERIMENTAL STUDY OF OVARY GRAFT TO INTESTINAL MESENTERIC FOLLOWING OVARIOHYSTERECTOMY IN BITCH

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## Introduction

The most common indication for ovario-hysterectomy is elective sterilization. The common terms used in describing this procedure are “spaying” and “neutering” as described by Fossum, 1997. The main objectives for doing this surgical procedure are to eliminate the heat period in the female cat or dog and prevent unwanted puppies from being added to the pet population problem. Although the ability to reproduce is eliminated by just removing the uterus, the ovaries also need to be removed in order to prevent the nuisance caused by the “heat” periods which would continue under the influence of hormones produced by the ovaries (Nickel, 2008). Minami *et al.* (1997) reported that the ‘Ovario-hysterectomy’ is the treatment of choice for most uterine disease including Pyometra, Uterine torsion or rupture and Neoplasia, etc. Pretzer, 2008, narrated that the best treatment for pyometra is to remove the uterus and ovaries by spaying the pet immediately. If surgery is not done, and the pet is treated with prostaglandins, antibiotics and IV fluids, the pet may recover its health, but the cells inside the uterus have not changed, and the condition may reoccur. If prostaglandins are used in treatment, the pet has to be bred at its next estrus cycle.

Following this operation different problems and complications may occur in short-term and long-term, such as:

(i).Urinary Incontinence. (ii).Body Weight Gain. (iii).Recurrent Estrus. (iv).Eunuchoid Syndromes etc.

**Urinary Incontinence:** Urinary incontinence has been reported after surgery and may require lifelong medical treatment.

**Body Weight Gain:** Some pet owners believe that dogs and cats become fat and have less energy after being spayed; pets are truly less energetic following spay surgery. If pets are fed the same amount after being spayed as before the surgery especially if they were on diets for Indian Journal of Canine Practice

young, growing pets they will put on weight after being spayed as reported by. This is entirely preventable if owners increase activity and decrease feeding size because becoming fatty and lazy is associated with caloric intake and inactivity. Watching what and how much they feed and keeping exercise levels up will go a long way in preventing obesity.

**Eunuchoid Syndromes:** The Eunuchoid Syndromes is occasionally observed in working dogs after ovario-hysterectomy. An OHE eliminates most, if not all, of the female hormone production as reported by Howe *et al.*, 2001. In so doing, the real advantages of this procedure are realized. In human cases, great efforts are undertaken to maintain or restore hormone production in the body, but the same is only rarely true in canine practice. These hormones play key roles in reproduction in the dog. However, they can also have many unwanted side effects.

In this study it was recorded that an ‘Auto transplantation’ of an ovary to the intestinal mesenteric, which is drained exclusively by the portal vein, may prevent these complications.

## Material and Methods

In this experiment 10 Bitches which were of similar breed, age and weight were taken for study and were divided in to three groups.

Group I: Performed ovario-hysterectomy and both ovaries were removed.

Group II: Performed ovario-hysterectomy but one ovary left at its site (not removed).

Group III: Performed ovario-hysterectomy removing both ovaries and immediately one of ovaries was auto-transplanted to the intestinal mesenteric.

During the study, two month clinical evaluation and sex hormones ( including:1-estradiol 2-Progestron and 3-prolactin) test were done at 2,5,9,14, 20,26,32,38,and 44 days.

## Results

Grafted ovary has hormonal function however some parts of produced hormones metabolized in the liver, but there main levels can prevent ovario-hysterectomy complications like Eunuchoid syndromes and body weight gain, etc.

## Conclusion

The graft produces estradiol and progesterone, which are partially metabolized by the liver. Circulation estradiol levels are inadequate to initiate estrus, but they are sufficient to prevent the eunuchoid syndrome.

## References

Fossum, T. W. (1997): Small Animal Surgery, Mosby Edit., 544-549.  
Howe, L.M., Slatter, M.R., Boothe, H.W., Hobson, H.P., Halcom, J.L. and Spann,

A.C. (2001): Long term outcome of gonadoectomy performed at an early age or traditional age in dogs. J. Am. Vet. Med. Assoc. 218: 217-221.

Minami, S., Okamoto, Y., Euguchi, H., Kato, K. (1997): Successful laparoscopy assisted ovariohysterectomy in two dogs with pyometra, J. Vet Med. Sci. 59(9): 845-847.

Nickel, R. F. (2008): Kastration bei der Huendin – Eine Diskussion zur Indikation, chirurgischen Techniken, Nebenwirkungen und Komplikationen, Spektrum Tiermedizin, Veterinaerspiegel Verlag GmbH, 16, 2008, 3 -14.

Pretzer, S. D. (2008): Clinical presentation of canine pyometra and mucometra: a review. Theriogenology, 2008 Aug;70(3):359-63.

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