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Surgical excision of ovarian remnant tissue in a queen cat: A case report

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Abstract

A three year old non descript queen cat, spayed one year back presented with the history of anorexia, restlessness, vocalization and increased efforts to get outside. On clinical examination animal was alert and active, temperature, heart rate, respiratory rate, and CRT are within the normal range. On vaginal examination, vulva was swollen with pink and moist and no discharge noticed, indicated that queen cat came into heat. Vaginal exfoliative cytology revealed cornified cells, suspected as ovarian remnant syndrome. We used GnRH challenge test, 2 ug of GnRH analogue, Buserelin Acetate (Gynarich inj) IM, was injected on day 0. Then serum collected on day 8 showed progesterone level of 8.4 ng/ml and estrogen level was 11.4 pg/ml, then it was confirmed as Ovarian remnant syndrome. Ovarian remnant tissue with follicle was removed and surgical incision was closed by continuous lockstitch suturing of muscle layer. After surgery, long acting antibiotics, cefovecin sodium (convenia) at 8mg per kg b.wt. subcutaneously administered for post operative care and the animal recovered after two dressings completely.

Keywords: Ovarian remnant syndrome, vaginal exfoliative cytology, Gynarich

Introduction

Ovariectomy and ovariohysterectomy are typical procedures performed on bitches and queens to lessen the danger of pathological alterations to the reproductive organs and to avoid overpopulation and undesired behavior associated with oestrus. The ovarian remnant syndrome is a long term problem that occurs when ovarian tissue is not completely removed following ovariohysterectomy (Umamageswari *et al.*, 2019) [5]. Remaining ovarian tissue that has resumed folliculogenesis and oestrogen production is the most prevalent source of behavioural and physical indications of oestrus in cats after ovario – hysterectomy (Nelson and Couto., 2003) [4]. It arises as a result of surgical errors that result in the partial removal of one or both ovaries. The right ovary is thought to be more frequently affected due to its more cranial position and the difficulties in gaining appropriate exposure during ovariectomy or ovariohysterectomy (Umamageswari *et al.*, 2019) [5].

History and clinical observations

A three year old non descript queen cat, weight 3.2 kg, queened one times spayed one year back presented with the history of anorexia, restlessness, vocalization and increased efforts to get outside. On clinical examination, animal was alert and active, temperature, heart rate, respiratory rate, CRT are within the normal range. On vaginal examination, vulva was swollen with pink and moist and no discharge noticed, indicated that queen cat came into heat. Vaginal exfoliative cytology revealed cornified cells, tentatively diagnosed as the ovarian remnant syndrome.

Diagnosis and surgical management

Generally two tests are used to find out whether functional ovarian tissue is present or not. One test is by using Gonadotropin – releasing hormone (GnRH) and Human Chorionic gonadotropin (HCG). We used GnRH challenge test, 2 ug of GnRH analogue, Buserelin Acetate (Gynarich inj) IM, was injected (day 0). Then serum collected on day 8 showed progesterone level of 8.4ng/ml and estrogen is 11.4 pg/ml. Based on the challenge test, the case was confirmed as ovarian remnant syndrome.

Advised the owner to bring the animal on next day morning with empty stomach for removing the ovarian remnants tissue. The queen cat was administered inj xylazine @ 1mg per kg b.wt IM and ketamine @ 5mg per kg b.wt IM as the pre – anaesthetics and the anaesthesia was

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maintained with inj ketamine @ 5mg per kg b.wt and inj diazepam @ 0.2mg per kg b.wt @ 4 : 1 ratio intravenously. Incision was made at ventral midline approach near the umbilicus and small ovarian remnant tissue with fluid filled follicle was noticed. Ovarian remnant tissue with follicle was removed and using PGA (2 – 0) surgical incision was closed by continuous lockstitch suturing of muscle layer. After surgery, long acting antibiotics, cefovecin sodium (convenia) at 8mg per kg b.wt. subcutaneously administered for post operative care and the animal recovered after two dressings completely.

Discussion

Ovarian remnant syndrome is a condition that occurs when ovarian tissue remains inside the body after a female cat is spayed. This tissue can produce oestrogen, triggering signs of heat in the cat. In an unspayed cat, the ovaries produce a number of hormones, including oestrogen. When cat is spayed, the entire reproductive tract is surgically removed. Therefore, cat will not come to heat periodically. If a previously spayed animal shows signs of going into heat, this may indicate that functioning ovarian tissue is still present and producing oestrogen. This is called ovarian remnant syndrome. Most common clinical sign of ovarian remnant syndrome is when a previously spayed bitch goes into heat (Devender Kumar *et al.*, 2018) ^[1]. Onset of clinical signs various from three months to five years (Miller, 1995) ^[3]. Complications of ovarian remnant syndrome include the formation of granulosa cell tumour, uterine stump pyometra, mammary neoplasm, surgical excision of ORS are the only treatment option for ORS (Jhonston, 1991).

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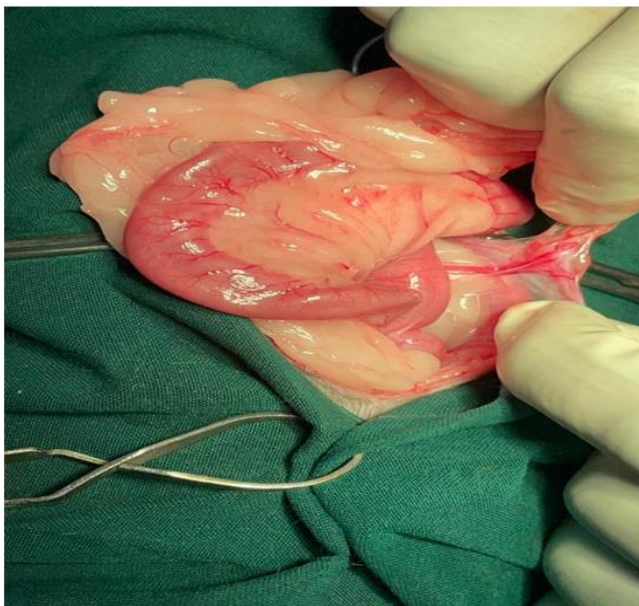


Fig 1: Ovarian remnant tissue

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