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Ultrasonographic localisation and surgical findings in a Persian cat with suspected ovarian remnant syndrome

Triono Basuki[1], Arinda Fauzia Islamiati[1,2,3]*, Yusuf Marcelino[1], Deni Noviana[3,4]

[1] March Animal Clinic, Jakarta, Indonesia
[2] Animal Biomedical Sciences Study Program, School of Veterinary Medicine and Biomedical Sciences, IPB University, Bogor, Indonesia
[3] Veterinary Teaching Hospital, School of Veterinary Medicine and Biomedical Sciences, IPB University, Bogor, Indonesia
[4] Division of Surgery and Radiology, School of Veterinary Medicine and Biomedical Sciences, IPB University, Bogor, Indonesia

ABSTRACT: Recurrent oestrous behavior following gonadectomy indicates residual functional ovarian tissue. A three-year-old female Persian cat weighing 2.4 kg presented with malodorous purulent vulvar discharge, emesis, and decreased appetite and water intake. The owner reported post-sterilisation recrudescence of estrus and receptivity. Abdominal ultrasonography demonstrated an anechoic fluid collection caudal to the urinary bladder and a 0.5-cm anechoic cystic structure caudal to the left kidney. Exploratory laparotomy identified a cystic lesion at the left ovarian pedicle and an inflamed uterine stump. Residual reproductive tissue was surgically excised, and management included antimicrobial and corticosteroid therapy. This case utilized transabdominal ultrasonography to detect ectopic or remnant reproductive tissue and guide surgical resolution of ovarian remnant syndrome complicated by uterine stump inflammation.

Keywords:
estrus, ovariohysterectomy, ultrasonography, laparotomy, uterine stump pyometra, feline

■ INTRODUCTION

Ovarian remnant syndrome (ORS) occurs when ovarian tissue persists after gonadectomy (ovariohysterectomy or ovariectomy). In queens, ovarian function is re-established as estrus signs, including calling, lordosis, and receptivity (Flock *et al.* 2022). Retained tissue can induce pathologies, including uterine stump pyometra, stumpitis, cystic endometrial hyperplasia, ovarian neoplasia, and hyperandrogenism (Fontes & McCarthy 2020). Consequently, queens with oestrous behavior and vulvar discharge require evaluation of pedicles and uterine bodies. Preoperative ultrasonographic localization is critical because tissue may reside at pedicle sites or ectopic locations, such as the omentum or mesentery (Pollard & Hecht 2015). Transabdominal ultrasound visualizes cysts and uterine fluid, facilitating re-exploration. This report describes the localization and surgical management of ORS with stump inflammation and vulvar discharge under restricted testing.

■ CASE

History and clinical examination. A three-year-old female Persian cat (body weight 2.4 kg) showed malodorous purulent vulvar discharge and emesis. Despite previous gonadectomy, the owner reported subsequent cyclicity with oestrous vocalization and male receptivity. The appetite and intake were preserved, and vaccination status was up to date. On examination, the cat was alert and responsive, with a body temperature of 38.8 °C. Purulent exudate was observed at the vulvar vestibule (Figure 1A). Abdominal palpation revealed a small urinary bladder without pain.

Diagnostic imaging. Abdominal ultrasonography was performed to evaluate the caudal abdomen and retroperitoneal space for residual reproductive organs and sources of purulent discharge. Imaging revealed two lesions: (i) a 0.5-cm anechoic cystic structure immediately caudal to the left kidney's caudal pole, corresponding to the expected position of the left ovarian pedicle (Figure 1B-C), and (ii) anechoic fluid-filled accumulation caudal to the urinary bladder, consistent with distension of the vaginocervical region or uterine remnant (Figure 1D). These findings supported a presumptive diagnosis of left ORS with secondary uterine stump infection/inflammation (stump pyometra/stumpitis). Differentials included primary vaginitis, retroperitoneal cystic lesions, and ovarian neoplasia.

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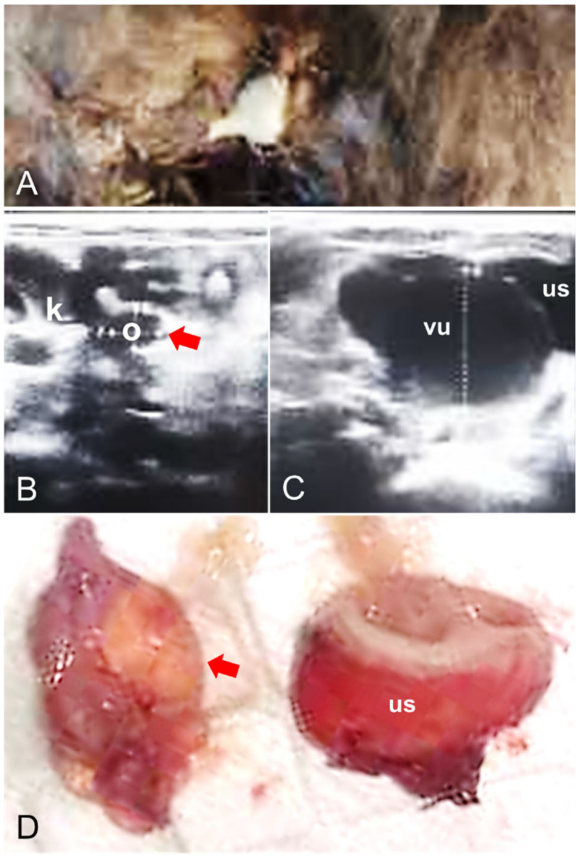


Figure 1. Sonogram and intraoperative findings in a Persian cat with presumptive ovarian remnant syndrome. (A) Purulent exudate at the vulvar orifice, (B) 0.5-cm anechoic structure (calipers, red arrow) caudal to the left kidney (k), consistent with a remnant ovarian structure, (C) Anechoic fluid caudal to the urinary bladder (vu), indicating accumulation within the uterine stump/vagina (vs), and (D) Laparotomy showing a lesion in the left ovarian region (red arrow) and an inflamed uterine stump (us).

Surgical Management and Outcome. Laparotomy via a midline incision revealed a 0.5-cm cystic mass at the left ovarian pedicle and an enlarged, inflamed uterine stump (Figure 1D). The mass and residual uterine tissue were ligated and resected. Amoxicillin–clavulanate and dexamethasone were administered postoperatively, and clinical signs and vulvar discharge resolved.

■ RESULTS AND DISCUSSION

The diagnosis of ORS in this patient was established through history (recurrent estrus in a spayed queen), targeted imaging, and intraoperative findings. In cats, functional remnant tissue secretes estrogens, driving estrus and predisposing uterine architecture to hormone-mediated inflammation or infection (Flock *et al.* 2022). Ultrasonography is first-line for identifying reproductive structures. Pollard and Hecht (2015) placed the feline ovarian fossa caudal to the kidney and the uterine body between the urinary bladder and rectum. In this case, detection of a 0.5-cm anechoic lesion caudal to the left kidney guided exploration of the left ovarian pedicle. Anechoic characteristics reflect fluid-filled structures that in ORS represent follicular cysts or functional luteal structures (Kim *et al.* 2024).

Purulent vulvar discharge with uterine stump inflammation indicates uterine stump pyometra or stumpitis. Chronic progesterone exposure from functional remnant tissue promotes endometrial secretion and localized immunosuppression, creating an environment for secondary bacterial infection within the uterine remnant (Flock *et al.* 2022). Complete resection of residual uterine and ovarian tissue remains the treatment for ORS and stump pyometra, preventing recurrence of signs and septic reproductive complications. Although confirmation (e.g., elevated serum progesterone or anti-Müllerian hormone [AMH]) and histopathological evaluation prove ovarian tissue (Flock *et al.* 2022), cystic pedicle lesions seen intraoperatively with clinical resolution after excision validate the diagnosis. Surgeons should inspect ovarian pedicles, the cervical stump, and adjacent peritoneal tissues—including the omentum—to rule out multifocal or ectopic remnant tissue (Fontes & McCarthy, 2020).

■ CONCLUSION

Recurrent estrus and vulvar discharge in a previously spayed queen should raise suspicion of ORS with uterine stump inflammation. Transabdominal ultrasonography localizes ovarian remnants and evaluates fluid retention in the reproductive tracts. Prompt laparotomy and excision eliminate the signs and prevent complications.

■ AUTHOR INFORMATION

Corresponding Author

*AFI: arindafauzia@gmail.com

March Animal Clinic, Jl. Kelapa dua wetan blok AII/3, Jakarta, INDONESIA.

■ ETHICS AND DECLARATIONS

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