

## In uterine foetal death in a mixed-breed cat

Gina Nuryustika Rizal<sup>1</sup>, Arief Purwo Mihardi<sup>2,\*</sup>, Dinda Septiana Br Tampubolon<sup>3</sup>, Malni Sovinar<sup>3</sup>

<sup>1</sup> Veterinary Professional Program, School of Veterinary Medicine and Biomedical Sciences, IPB University, Bogor

<sup>2</sup> Division of Internal Medicine, School of Veterinary Medicine and Biomedical Sciences, IPB University, Bogor

<sup>3</sup> Bobon and Vet Animal Clinic, Bogor

**ABSTRACT:** Examination of pet animals is often performed by animal owners for the prevention and treatment of animals, one of which is a reproductive disorder. This case study aimed to evaluate foetal death in a mixed-breed cat. The female cat named Kuro was brought by her owner to the clinic with complaints of red discharge from her vulva for five days. Physical examination revealed enlargement of the mesogastric area, enlarged nipples, and no abnormalities in the urinary bladder. Radiographic investigations were performed at the previous clinic and ultrasonography was performed at the Bobon and Vet animal clinic. Radiographic results showed a mass located under the urinary bladder, while ultrasonography showed that the two foetuses were not moving and there was no heartbeat. Based on the results of the examinations and clinical symptoms, Kuro experienced the foetal death in the womb, then an ovario-hysterectomy was performed, and post-operative therapy was administered in the form of antibiotics, anti-inflammatories, and topical preparations for healing incision wounds.

### Keywords:

foetal death, in uterine, cat, ovariohysterectomy

### ■ INTRODUCTION

Cats are mammals used as pets because of their various attractions. As beloved pets, cat-owners often take their pets to clinics or animal hospitals to check their cats' health (Putri *et al.* 2020). One of the clinical examinations that can be performed is pregnancy examination. The average gestational age of domestic cats is 65.6 days with a gestation length range of 52-74 days (Kustritz 2006). Pregnancy can result in normal parturition or abortion which can be caused by infectious or noninfectious agents (Verstegen *et al.* 2008). The incidence of foetal death in cats is very rarely reported; generally, it is immediately treated by a veterinarian with ovariohysterectomy. This case study aimed to evaluate foetal mortality in mixed-breed cats.

### ■ CASE

**Signalement:** Kuro, a black female mixed-breed cat with body weight of 3.2 kg. **History:** Kuro was taken by his owner to the Bobon and Vet Clinic with complaints of bloody discharge from his vulva for five days. Three weeks earlier, Kuro had been vaccinated. Based on the owner's statement, Kuro's urination did not change, with the colour of the urine being clear. Kuro received a referral from the previous clinic and was advised to do an abdominal radiography. **Clinical Symptoms:** The cat's weight is 3.2 kg and had a rectal temperature of 38.5 °C. A cloudy red discharge was observed in the vulvar area. **Supporting Examinations:** Kuro underwent a radiographic examination (Figure 1A) and ultrasonography (Figure 1B). **Diagnoses:** Foetal death. **Prognosis:** Fausta. **Therapy:** Ovariohysterectomy was performed (Figure 1C, D).

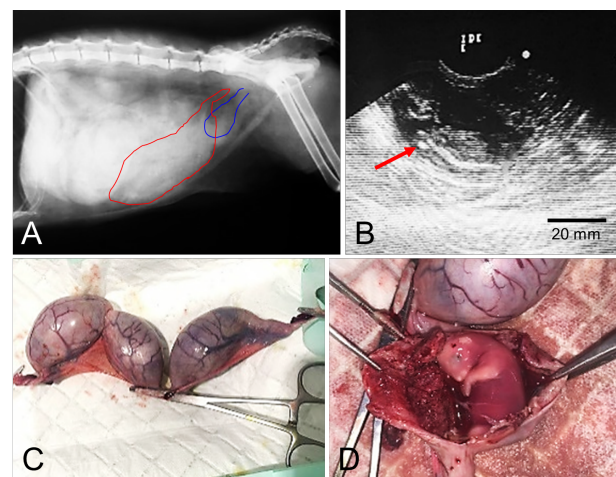


Figure 1. Supporting examination and ovariohysterectomy in the cat. (A) Radiogram laterolateral view showing the urinary bladder (blue line) and mass in the uterus (red line), (B) sonogram of the gestational sac containing the foetus in the cat (red arrow), (C) gestational sac, and (D) foetus from the opened gestational sac.

### ■ RESULTS AND DISCUSSION

Kuro was taken by her owner to the clinic with complaints of red discharge on her vulva. Vaginal discharge in the form of blood can be caused by many factors and can occur in both the urinary tract and reproductive tract of cats. Disorders of the urinary tract include urinary tract infections, the presence of stones or crystals in the urinary tract, cystitis, and tumours (Popa *et al.* 2017). Meanwhile, in the repro-

Received: 12-07-2023 | Revised: 29-07-2023 | Accepted: 03-08-2023

© 2023 CC-BY-SA. This is an Open Access article that is distributed under the terms of [Creative Commons Attribution ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/) (<https://creativecommons.org/licenses/by-sa/4.0/>).

ductive tract, vaginal neoplasia, vaginitis, uterine stump pyometra, trauma, hormonal disorders, coagulopathy, ovarian remnant syndrome, and abortion have been reported (Tilley & Francis 2011).

Palpation of the mesogastricum revealed enlargement which might have been a pregnancy sac. In the hypogastric area, the urinary bladder can be completely filled with urine. The mammary glands of the cats also showed no abnormalities. Radiographic results showed that the urinary bladder appeared normal and a mass shadow was found under the urinary bladder (Figure 1A). Ultrasound results showed the presence of a gestational sac containing the foetus. However, no foetal heartbeat was observed in the womb. Kuro then performs an ovariohysterectomy. Cat foetuses generally show heartbeat activity at 16-18 days and foetal movements at 29-30 days of gestation (Davidson *et al.* 1986).

Foetal death and pregnancy loss in cats show symptoms such as decreased abdominal circumference, vomiting and/or diarrhoea, decreased appetite, depression, dehydration, and fever (Verstegen *et al.* 2008). In addition, discharge in the form of blood or purulent discharge, as well as a tense stomach and uncomfortable conditions can also be seen. The clinical symptoms found in Kuro are red blood cell discharges. Further, foetal death and pregnancy loss can be caused by infectious or non-infectious causes (Verstegen *et al.* 2008). Viral infections that often cause foetal death include feline herpesvirus, feline immunodeficiency virus (FIV), feline infectious peritonitis virus (FIP), feline leukaemia virus (FeLV), and feline panleukopenia virus (FPV). Bacterial infections are generally caused by *Salmonella* spp., *Chlamydia* sp., and *Brucella* sp. It is caused by a protozoan infection, *Toxoplasma gondii*. Abortions due to non-infectious causes include hormonal disorders, drug toxicity, nutritional deficiencies, stress, trauma, and systemic diseases (Tilley & Francis 2011).

Treatment for foetal death in cats can be in the form of ovariohysterectomy to remove the ovaries and uterus along with the foetus or by stimulating foetal expulsion using the hormone prostaglandin (Briles & Evans 1982). Ovariohysterectomy in cats uses laparotomy at the midline of the ventral abdomen. The midline laparotomy technique is better used when treating patients with pathological uterine conditions (Babu *et al.* 2018). The midline incision technique allows for a wider incision, minimises bleeding, and facilitates expulsion of both uteri (Murugesan *et al.* 2020). The postoperative therapy was a combination of the antibio-

tics amoxicillin and clavulanic acid 20 mg/kg BW BID, methyl prednisolone 1 mg/kg BW SID, and bioplacenton gel. Postoperative treatment was performed for three days with the incision wound dry, clean, and without complications.

The causative diagnosis of foetal death that occurred in Kuro could not be determined. This was because no further examinations were performed. Apart from that, Kuro did not show general symptoms that occur due to infectious diseases or a history of drug administration that could cause foetal death.

## ■ CONCLUSION

The cat was diagnosed with foetal death in the uterus based on anamnesis, physical examination, and supporting radiographic and ultrasonographic examinations. The patient underwent ovariohysterectomy.

## ■ AUTHOR INFORMATION

### Author for correspondence

\*APM: mihardi.ap@apps.ipb.ac.id

Division of Internal Medicine, School of Veterinary Medicine and Biomedical Sciences, IPB University, Jln Agatis, IPB Dramaga Campus, West Java, 16680, INDONESIA.

## ■ REFERENCES

- Babu M, Krishnaswamy A, Nethra R, Narasim-hamurthy. 2018. A simple technique for ovario-hysterectomy in the cats. *International Journal of Current Microbiology and Applied Science*. 7(8):2554-2561.
- Briles EC, Evans LE. 1982. Clinical applications of prostaglandins in dogs and cats. *Iowa State University Veterinarian*. 44(2): 90-98.
- Davidson AP, Nyland TG, Tsutsui T. 1986. Pregnancy diagnosis with ultrasound in the domestic cat. *Veterinary Radiology & Ultrasound*. 27(4):109-114.
- Kustritz RMV. 2006. Clinical management of pregnancy in cats. *Theriogenology*. 66(1):145-150.
- Murugesan V, Arunachalam K, Shanmugam K, Palanivel M. 2020. Comparative study on midline and lateral flank approaches for ovariohysterectomy in cats. *The Pharma Innovation Journal*. 9(7):191-193.
- Popa AM, Simion V, Codreanu I, Fernoaga C, Cornila M, Codreanu M. 2017. The prevalence of hema-turia in dogs and cats. *Agrolife Scientific Journal*. 6(2):155-160.
- Putri R, Sumiarto B, Mulyani GT. 2020. Faktor-faktor risiko feline panleukopenia pada kucing di Daerah Istimewa Yogyakarta. *Jurnal Sain Veteriner*. 38(3):206-213.
- Tilley LP, Francis WK. 2011. *Blackwell's Five-Minute Veterinary Consult: Canine and Feline*. New Jersey(US): John Wiley & Sons, Inc.
- Verstegen J, Dhaliwal G, Verstegen-Onclin K. 2008. Canine and feline pregnancy loss due to viral and non-infectious causes: a review. *Theriogenology*. 70(3):304-319.