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# Non-surgical management of hematometra in a dog

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**Abstract**
Hematometra, a rare and often underdiagnosed canine reproductive disorder characterized by the accumulation of blood within the uterine lumen, presents both diagnostic and therapeutic challenges in clinical practice. This case study describes about the diagnosis and non-surgical management of hematometra in a 4-year-old female German shepherd dog presented with persistent vaginal bleeding and mild abdominal discomfort. Diagnostic evaluation included ultrasonography, complete blood count, liver, kidney and lipid profiles, revealing leucocytosis (WBC 12.3 × $10^3$/µL), mild azotaemia elevated urea (31 mg/dL) and abnormal lipid parameters. Treatment with intravenous fluids, antibiotics and anti-inflammatories resulted in clinical improvement with normalized WBC (8.05 × $10^3$/µL). This study highlights systemic effects, non-surgical management and documentation challenges, offering practical insights for veterinarians in resource-limited settings.

**Keywords:** Hematometra, canine, non-surgical management, vaginal bleeding

## Introduction
Hematometra, characterized by blood accumulation in the uterine cavity, is a rare reproductive condition in canines, often confused with pyometra due to similar clinical signs (Johnston *et al.*, 2001) [9]. It may result from cervical stenosis, endometrial hyperplasia or hormonal imbalances, primarily affecting intact females during estrus (Root Kustritz, 2010) [18]. This case study details the clinical presentation, diagnostic findings, and non-surgical management of hematometra in a 4-year-old female German shepherd at Clinic, Tirupati, India. The article addresses systemic effects, therapeutic outcomes and documentation challenges, offering a novel perspective for managing this condition in resource-limited settings.

## Materials and Methods
A 4-year-old intact female German Shepherd (GSD) dog weighing 28 kg was presented to the Veterinary Clinical Complex, Tirupati, with a two-month history of persistent vaginal bleeding. The owner reported no previous history of mating, parturition or other reproductive interventions. On clinical and physical examination revealed that the vital parameters like temperature, heart rate and respiratory were within normal range and continuous bloody vaginal discharge without signs of systemic illness.

## Diagnostic Procedures adopted
A representative ultrasound image showing a distended uterus with hypoechoic fluid (blood), characteristic of hematometra. The image highlights the uterine wall appeared thickened and the echotexture of the fluid was distinct from the echogenic content typically observed in pyometra, allowing a presumptive diagnosis of hematometra. Laboratory assessment of Complete Blood Count (CBC), Liver Profile: Assessed Total Protein (TP), Albumin (ALB), and Globulin (GLOB); Kidney Profile: Evaluated creatinine, urea, urea/creatinine ratio, uric acid, and creatine kinase; and Lipid Profile: Measured total cholesterol, triglycerides, low-density lipoprotein (LDL), and high-density lipoprotein (HDL) were also performed.

## Therapeutic management
The dog was administered with intravenous fluids @ Ringer's Lactate (250 mL/h) for hydration; Antibiotics: Inj. Ceftriaxone 500 mg, Tab. Cefpet 250 mg; Anti-inflammatories and

Supportive Medications: Inj. Pantoprazole 40 µg, Inj. Mebeverine 100 mL, Inj. Domperidone 150 µg, Syr. Hepamust, Tab. Meloxicam 10 mg for a week.

**Data Analysis**
Laboratory findings were interpreted with reference to standard canine values (Kaneko *et al.*, 2008) [10]. Abnormal values were flagged as High (H) or Low (L). Follow-up data, assessed the treatment efficacy.

**Results**
**Clinical Findings:** Patient exhibited persistent vaginal bleeding, recorded multiple times. The laboratory findings are summarized as follows in Tables 1-3.

**Table 1:** Complete Blood Count (CBC) findings

| Parameters | Initial | Follow up | Unit | Reference | Remarks |
|---|---|---|---|---|---|
| WBC | 12.3 | 8.05 | $10^3$/µL | 5.0-14.1 | H (initial), Normal (follow-up) |
| Lym% | - | 23 | % | 8-21 | H (follow-up) |
| Lym# | - | 1.65 | $10^3$/µL | 0.4-2.9 | L (follow-up) |
| Neutrophils% | - | 70.5 | % | 64-78 | Normal |
| RBC | - | 8.17 | $10^6$/µL | 5.0-7.9 | H |
| Hct | - | 69.9 | % | 35-57 | H |
| Platelets | - | 190 | $10^3$/µL | 211-621 | L |

**Table 2:** Kidney Profile

| Parameter | Result | Unit | Reference range | Remarks |
|---|---|---|---|---|
| Creatinine | 1.13 | mg/dL | 0.6-1.4 | Normal |
| Urea | 31 | mg/dL | 9-26 | H |
| U/C ratio | 27.434 | - | - | H |
| Uric acid | 0.0 | mg/dL | 0.1-0.4 | L |
| CK | 42 | U/L | 64-314 | L |

**Table 3:** Lipid Profile

| Parameter | Result | Unit | Reference range | Remarks |
|---|---|---|---|---|
| TC | 203 | mg/dL | 136-392 | Normal |
| TG | 72 | mg/dL | 23-102 | Normal |
| LDL | 46 | mg/dL | 136-392 | L |
| LDL* | 143 | mg/dL | - | H |
| Special test | 97 | mg/dL | 68-104 | Normal |

**Treatment Outcomes**
Following treatment, WBC profile was normalized to 8.05 × $10^3$/µL (Figure 1), and reduced vaginal bleeding, and indicating the successful therapeutic management (No adverse effects were reported).

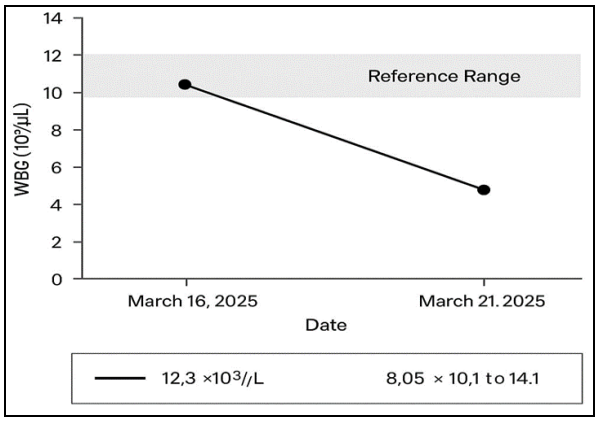


**Fig 1:** A line graph plotting WBC levels (12.3 × $10^3$/µL on March 16, 2025, to 8.05 × $10^3$/µL on follow-up), demonstrating treatment efficacy. The x-axis represents time (March 16 to March 21, 2025), and the y-axis shows WBC count ($10^3$/µL).

**Case Discussion**
This case demonstrates that chronic vaginal bleeding in intact female dogs should prompt consideration of uterine pathologies such as Hematometra. Though Hematometra is relatively rare, it presents a significant challenge due to its subtle clinical signs. Previous studies have emphasized the importance of early intervention in similar cases to prevent severe sequelae, including multisystemic organ failure (Verstegen *et al.*, 2008) [23]. Hematometra's hallmark symptom is persistent vaginal bleeding was evident, aligning with literature descriptions (Romagnoli, 2006) [16]. Initial leucocytosis (WBC 12.3 × $10^3$/µL) suggests inflammation, possibly secondary to uterine pathology, which resolved with antibiotics. Thrombocytopenia (PLT 190 × $10^3$/µL) and haemoconcentration (HCT 6 Ettinger 9.9%) indicate blood loss or dehydration, addressed by IV fluids (Ettinger and Feldman, 2010) [5].
Elevated urea (31 mg/dL) and urea/creatinine ratio (27.434) suggest prerenal azotemia, likely from dehydration or systemic stress (Polzin, 2011) [14]. The lipid profile's inconsistencies (low LDL, high LDL*) may reflect inflammation or metabolic disturbances, warranting further investigation (Bauer, 2011) [2].
The non-surgical approach, using antibiotics, anti-inflammatories and supportive medications, contrasts with the surgical bias in the literature (Kyles and Hardie, 2005) [11]. This strategy is particularly relevant for resource-limited settings, where imaging was not documented. Documentation errors, such as repetitive entries, highlight the need for improved record-keeping in veterinary practice, a novel discussion point in this context.

**Conclusion**
This case study demonstrates successful non-surgical management of hematometra in a dog within a resource-limited setting. Systemic effects (leucocytosis, azotemia, dyslipidemia) and documentation challenges underscore the need for comprehensive diagnostics and improved record-keeping. The findings contributed to the sparse literature on canine hematometra, offering practical guidance for veterinarians in similar settings.

**Author's contribution**
MP, AT, KS: Conceptualization and design; MP, AT, AN: Data compilation; AT, UP: Performed statistical analysis of data; AT, KS, UP: Performed interpretation of the results.

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**Conflict of interest**
The author declares no conflicts of interest.

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**References**
1. Bartel C, Schafer-Somi S. Canine pyometra and hematometra: A review. Reprod Domest Anim. 2012;47(Suppl 4):340-347.

2. Bauer JE. Lipoprotein metabolism in dogs and cats. J Vet Intern Med. 2011;25(6):1234-1240.
3. Biddle D, Macintire DK. Obstetric emergencies in small animals. Vet Clin North Am Small Anim Pract. 2000;30(3):611-627.
4. Davidson AP, Feldman EC. Uterine diseases in the bitch. Vet Clin North Am Small Anim Pract. 2004;34(4):889-910.
5. Ettinger SJ, Feldman EC. Textbook of Veterinary Internal Medicine. Saunders; 2010.
6. Feldman EC, Nelson RW. Canine and Feline Endocrinology and Reproduction. Elsevier; 2004.
7. Fossum TW. Small Animal Surgery. Elsevier; 2013.
8. Hoskins JD. Veterinary Pediatrics. Saunders; 2001.
9. Johnston SD, Root Kustritz MV, Olson PN. Canine and Feline Theriogenology. Saunders; 2001.
10. Kaneko JJ, *et al*. Clinical Biochemistry of Domestic Animals. Academic Press; 2008.
11. Kyles AE, Hardie EM. Surgical management of uterine diseases in dogs. Vet Surg. 2005;34(3):213-219.
12. McEntee K. Reproductive Pathology of Domestic Animals. Academic Press; 1990.
13. Merck Veterinary Manual. Merck & Co.; 2016.
14. Polzin DJ. Chronic kidney disease in dogs and cats. Vet Clin North Am Small Anim Pract. 2011;41(1):15-30.
15. Purswell BJ. Management of reproductive emergencies. Vet Med. 2001;96(9):682-690.
16. Romagnoli S. Hematometra in the bitch: a case report. J Small Anim Pract. 2006;47(8):478-480.
17. Root Kustritz MV. Reproductive disorders in the bitch. Compend Contin Educ Vet. 2005;27(4):294-302.
18. Root Kustritz MV. Clinical Canine and Feline Reproduction. Wiley-Blackwell; 2010.
19. Scherk MA, Ford RB. Reproductive emergencies in small animals. Vet Clin North Am Small Anim Pract. 2010;40(6):1155-1169.
20. Smith FO. Canine reproductive disorders. Vet Clin North Am Small Anim Pract. 2006;36(5):1093-1107.
21. Thrall MA, *et al*. Veterinary Hematology and Clinical Chemistry. Wiley-Blackwell; 2012.
22. Troxel MT, Poppenga RH. Diagnostic imaging in canine reproductive disorders. J Vet Diagn Invest. 2005;17(4):321-328.
23. Verstegen J, Dhaliwal G, Onclin VK. Mucometra, cystic endometrial hyperplasia, and pyometra in the bitch: advances in treatment and assessment of future reproductive success. Theriogenology. 2008;70(3):364-374.

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