



Right inguinal hernia with urinary bladder lateroflexion in a domestic shorthair cat

Dwi Utari Rahmianti^{1,*}, Ramadita Aisyah Putri², M Nur Irfan², Azizah², Nawangsari Ramadhani²

¹ School of Veterinary Medicine and Biomedical Sciences, IPB University, Bogor, Indonesia

² Veterinary Professional Education Program, School of Veterinary Medicine and Biomedical Sciences, IPB University, Bogor, Indonesia

ABSTRACT: Inguinal hernia is an uncommon condition in cats, but it may lead to significant complications when the urinary bladder is involved. This report describes a case of right inguinal hernia with urinary bladder lateroflexion in an 8-month-old intact female Domestic Shorthair cat presenting with inguinal swelling and dysuria. During in-hospital observation, no urination occurred for over 12 hours. Physical examination revealed a mass in the right inguinal region. Lateral and ventrodorsal projections confirmed herniation of the urinary bladder into the inguinal canal, with deviation and flexion. Surgical correction was performed by herniorrhaphy, involving repositioning the urinary bladder into the abdominal cavity and closure of the hernial ring. Postoperative evaluation showed a stable condition, normal urination, and uncomplicated wound healing.

Keywords:

domestic shorthair cat, dysuria, herniorrhaphy, inguinal hernia, urinary bladder lateroflexion

INTRODUCTION

A hernia is a condition involving the protrusion of abdominal organs through a body wall defect, causing displacement from anatomical position and containment within a hernial sac (Rianto *et al.* 2024). In cats, inguinal hernia is the herniation of intra-abdominal organs through the inguinal canal; although rare, it may cause consequences if not diagnosed promptly (Syaharuddin *et al.* 2022).

Urinary bladder involvement in inguinal hernia may alter bladder position, causing retroflexion or lateroflexion. This compromises urine flow, causing urinary retention, anuria, and life-threatening emergencies (King & Boag 2007). Diagnosis requires examination and imaging, radiography, and ultrasonography, to identify the hernial ring and involved organs (Wahyudi *et al.* 2025a). Treatment is herniorrhaphy with reduction and ring closure (Abdel-Saeed *et al.* 2021). This report describes the management of an 8-month-old intact female Domestic Shorthair cat treated at IPB University, Bogor, Indonesia.

CASE

Signalment and history: An 8-month-old intact female domestic shorthair cat was presented for elective ovariohysterectomy. Examination revealed right inguinal swelling. No urination occurred during 24-hour hospitalization, suggesting dysuria and impaired outflow. **Clinical findings:** The cat was stable with normal parameters. Palpation revealed soft enlargement in the right inguinal area, and the bladder was palpable in the hypogastric

region. **Differential diagnosis:** Inguinal hernia involving the urinary bladder, hernia containing omentum or loops, abscess, hematoma, lymphadenopathy, and lower urinary tract disease. **Diagnostic work-up:** Lateral and ventrodorsal radiographs showed urinary bladder displacement into the right inguinal region (Figure 1a) and organ redistribution due to omental traction through the hernial ring (Figure 1b). Blood count revealed eosinophilia and thrombocytopenia (Table 1). Duke bleeding time: 8 seconds, indicating pseudothrombocytopenia. **Diagnosis:** Right inguinal hernia involving the urinary bladder, accompanied by urinary bladder lateroflexion and dysuria. **Prognosis:** fair to good. **Treatment:** Surgical herniorrhaphy was performed by repositioning the urinary bladder into the abdominal cavity and closing the hernial ring, combined with ovariohysterectomy through a ventral midline approach. Eosinophilia was managed with multivitamin supplementation and anthelmintic treatment. **Postoperative:** Restored urination, wound healing, and no complications.

RESULTS AND DISCUSSION

Examination revealed eosinophilia, possibly related to inflammation secondary to urinary bladder herniation, although parasitic infestation was not ruled out. Blood count thrombocytopenia was confirmed as pseudothrombocyto-

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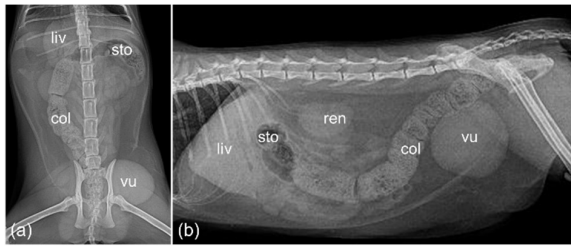


Figure 1. Radiographic findings in a domestic shorthair cat with right inguinal swelling. (a) Ventrodorsal and (b) right lateral views showing bladder displacement into right inguinal region. Abbreviations: liv, liver; sto, stomach; col, colon; ren, kidney; vu, urinary bladder.

Table 1 Hematological profile of the cat with inguinal hernia

Parameter	Results	Normal	Unit	Interpretation
Erythrocyte	8.49	4.60 – 10.00	$10^6/\mu\text{L}$	Normal
Hemoglobin	11.9	9.3 – 15.3	g/dL	Normal
Hematocrit	36.2	28.0 – 49.0	%	Normal
MCV	42.7	39.0 – 52.0	fL	Normal
MCH	14.0	13.0 – 21.0	pg	Normal
MCHC	32.8	30.0 – 38.0	g/dL	Normal
Thrombocyte	81	100 – 514	$10^3/\mu\text{L}$	Decrease
Leukocyte	15.5	5.5 – 19.5	$10^3/\mu\text{L}$	Normal
Lymphocyte	6.2	0.8 – 7.0	$10^3/\mu\text{L}$	Normal
Monocyte	1.4	0.8 – 1.9	$10^3/\mu\text{L}$	Normal
Granulocyte	7.9	2.1 – 15.0	$10^3/\mu\text{L}$	Normal
Lymphocyte	40.0	12.0 – 45.0	%	Normal
Monocyte	9.3	2.0 – 9.0	%	Increase
Granulocyte	50.7	35.0 – 85.0	%	Normal
Eosinophil	17.3	0 – 10.0	%	Increase

Note: Mean corpuscular volume (MCV), Mean corpuscular hemoglobin (MCH), Mean corpuscular hemoglobin concentration (MCHC)

penia and was hemostatically insignificant.

Surgery was performed under anesthesia using ketamine (100 mg/mL) and acepromazine for induction, followed by a continuous ketamine infusion at 2 mg/mL to maintain an anesthetic plane (Robertson *et al.*, 2018). A midline incision, initially made for ovariohysterectomy, was extended towards the inguinal region to explore and identify the hernial sac (Wahyudi *et al.* 2025b). Herniorrhaphy began with the identification of the hernial ring beneath the muscular layer, followed by the repositioning of the urinary bladder and omentum into the abdominal cavity. The hernial ring was closed with a horizontal mattress pattern to provide tensile strength in the thinned muscle. The muscle layer and linea alba were closed in layers using simple interrupted and continuous sutures, following standard soft-tissue surgery principles (Fossum 2019). Challenges included an elongated hernial ring, thin musculature, and urinary bladder involvement, which increased the risks of organ injury and recurrence (Smith & Parmely 2023).

Postoperatively, the patient received cefotaxime (25 mg/kg body weight) intravenously twice daily for 7 days, meloxicam for 3 days, multivitamins, folic acid, and wound care. Wound management included cleansing, topical antibiotic ointment, dressing, and abdominal bandaging. Postoperative monitoring showed stability, recovery of urinary function, satisfactory wound healing, and no systemic complications in the patient. These findings support herniorrhaphy with ovariohysterectomy through a single ventral midline incision for inguinal hernias involving the

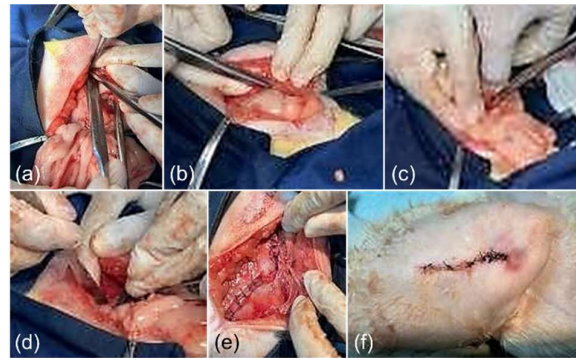


Figure 2. Surgical herniorrhaphy of the right inguinal hernia. (a) Abdominal exploration and identification of the hernial ring. (b) Opening of the hernial sac. (c) Repositioning of herniated organs into the abdominal cavity. (d) Freshening of the hernial ring margins. (e) Closure of the hernial ring. (f) Skin closure.

urinary bladder, consistent with Wahyudi *et al.* (2025b). This case is noteworthy because of the urinary bladder herniation with lateroflexion, which caused urinary disturbance.

CONCLUSION

A female cat with an inguinal hernia involving the urinary bladder was managed by ventral midline herniorrhaphy with ovariohysterectomy. Diagnosis, surgery, anesthesia, and care restored the function and healing. Bladder involvement should be considered in cats with swelling and dysuria.

AUTHOR INFORMATION

Corresponding Author

*DUR: dwi-ut@apps.ipb.ac.id

School of Veterinary Medicine and Biomedical Sciences, IPB University, Jl. Agathis Campus IPB Dramaga, Bogor, West Java 16680, INDONESIA

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