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CASE REPORT

Companion or pet animals

Postoperative chylothorax following surgical transection of a left ligamentum arteriosum in a cat with a persistent right aortic arch

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Abstract

A 6-month-old intact female domestic shorthair cat was presented for surgical correction of a vascular ring anomaly. The main clinical sign on presentation was persistent regurgitation after ingestion of solid food. Computed tomography of the thorax confirmed the diagnosis of a persistent right aortic arch (PRAA) with a left ligamentum arteriosum. The left ligamentum arteriosum was identified, ligated and transected via a left fifth intercostal thoracotomy to relieve the oesophageal constriction associated with the persistent right aortic arch. Within 24 h postoperatively, the patient developed dyspnoea and tachypnoea. A pleural effusion was noted on drainage of the left thoracic drain, which had been placed intraoperatively. The pleural effusion analysis was consistent with a chylothorax. A right-sided thoracostomy tube was placed in addition to the left, and a continuous drainage system was utilised. The chylous effusion resolved on Day 6 postoperatively. This case report highlights the occurrence and management of iatrogenic chylothorax following surgical correction of a PRAA with a left ligamentum arteriosum in a cat.

BACKGROUND

The majority of the lymphatic drainage in mammals occurs through the thoracic duct, which can be singular or multiple.[1–4] The thoracic duct originates in the sublumbar region from the cisterna chyli and enters the thoracic cavity at the aortic hiatus. Up to 20 different pathways of the thoracic duct have been described in dogs.[3] Termination varies in cats between the left external jugular vein and the subclavian vein.[4, 5] Variations between dogs and cats do exist; in cats, the thoracic duct runs to the left of the aorta, whereas in dogs, the thoracic duct runs to the right of the aorta and crosses to the left at the level of the sixth thoracic vertebra.[3–7] Individual variation in cats, especially in the caudal portion of the thoracic duct, has been well documented.[6, 7]

Chylothorax can be caused by several factors, including trauma to the thoracic duct, lymphatic obstruction at the lymphaticovenous junction and increased hydrostatic pressure in the cranial vena cava.[5] Iatrogenic injury to the thoracic duct has been documented as a potential complication following thoracic surgery in humans, although its reported incidence is low.[8–10] In cats, chylothorax secondary to thoracic surgery has rarely been documented. A literature search performed in April 2025 using PubMed and Google Scholar with the keywords 'chylothorax', 'cat', 'postoperative' and 'vascular ring anomaly' identified one published case report describing postoperative chylothorax in a cat.[11] In addition, the occurrence of postoperative chylothorax has been reported in a cat following surgical correction of a vascular ring anomaly; however, no postoperative management of the chylous effusion was described.[12] Persistent right aortic arch (PRAA) with a left ligamentum arteriosum is one of the most common vascular ring anomalies encountered in dogs and cats.[12, 13] During early embryonic development, a dorsal and ventral aorta with six connecting aortic arches develop and make up the cardiovascular system.[13] Abnormal embryonic development of the aortic arches can lead to complete or incomplete constriction of the oesophagus.[13] Patients with a PRAA will commonly present with the main complaint of persistent regurgitation following the ingestion of solid food.[13]

This case report describes the development and management of postoperative chylothorax in a cat following surgical correction of a persistent right aortic arch with a left ligamentum arteriosum.

CASE PRESENTATION

A 6-month-old intact, female, domestic shorthair cat was referred to Onderstepoort Veterinary Academic Hospital with the main complaint of regurgitation when solid food was

ingested. On presentation, the patient was bright and alert and had a body condition score of 4/9 (WSAVA Global Nutrition Committee). The patient's clinical examination findings were all within normal limits.

INVESTIGATIONS

Haematology revealed mild leucopaenia 6.38 × 10^9/L (reference range 7–20.5 × 10^9/L) and marked thrombocytopaenia 84 × 10^9/L (reference range 300–600 × 10^9/L). On blood smear evaluation, severe platelet clumping was observed that explained the false low platelet count. Serum biochemistry revealed a mild elevation in alkaline phosphatase 78 U/L (reference range 3–50) and a mild elevation in the albumin/globulin ratio 1.5 (reference range 0.7–1.3). The patient tested negative for both feline immunodeficiency virus (FIV) and feline leukaemia virus (FeLV). A barium oesophagram performed by the referring veterinarian revealed oesophageal dilation cranial to the heart base and near complete obstruction of contrast passage to the stomach. This finding raised the suspicion of a persistent right aortic arch. The patient was premedicated with ketamine 3 mg/kg (i/m) (Fresenius Kabi SA (Pty) Ltd) and medetomidine 0.02 mg/kg (i/v) (Domitor, Zoetis) and induced with alfaxalone, calculated to 1 mg/kg and given to effect (Alfaxan, Afrivet) for computed tomography (CT) of the thorax. An intravenous contrast-enhanced CT (Siemens Healthineers GmbH, Somatom Confidence, 64SG) of the thorax was performed using a slice thickness of 1 mm. Iohexol (300 mgI/mL) was administered manually at a dose of 2 mL/kg intravenously, and arterial and venous phase images were acquired. Thoracic CT confirmed the diagnosis of a persistent right aortic arch with left ligamentum arteriosum. A non-constrictive aberrant left subclavian artery was also seen. At the level of the third and fourth intercostal space, a mild tracheal deviation could be seen with a focal leftward deviation of the trachea. Images were interpreted on Radiant DICOM Viewer (Radiant DICOM Viewer Imaging Software, Medixant; available at www.radiantviewer.com). The patient was then maintained under general anaesthesia with isoflurane (Isofor, Safeline Pharmaceuticals) in 100% oxygen and prepared for surgery.

DIFFERENTIAL DIAGNOSIS

The main differential diagnosis for a young cat presenting with chronic regurgitation and oesophageal dilation cranial to the heart base includes a vascular ring anomaly, an oesophageal stricture and an oesophageal foreign body. Based on the imaging findings of focal constriction at the level of the heart base, a vascular ring anomaly was considered most likely.

TREATMENT

The surgery was performed by a surgical resident under the supervision of a certified surgical specialist. With the patient placed in right lateral recumbency, a left lateral fifth intercostal thoracotomy was performed and the latissimus dorsi muscle was preserved during the approach. The ligamentum arteriosum was identified with the assistance of an oroesophageal tube placed in the oesophagus and additionally the dilatation of the oesophagus oral to the ligament. The ligamentum arteriosum was carefully separated from the oesophagus by blunt dissection using a right-angled forceps. Two simple interrupted 3/0 silk ligatures (Gabler Medical) were placed circumferentially around the ligamentum arteriosum, one proximally and one distally, after which the ligamentum arteriosum was transected between the ligatures. An oroesophageal tube was then advanced caudally to identify any residual constrictive fibrous tissue. The thoracic cavity was lavaged with warm Ringer's lactate solution (Fresenius Kabi). A thoracic drain (Mila International, 12 Fr × 19 cm) was inserted through the skin at the left 10th intercostal space and tunnelled in the subcutis before entering the thoracic cavity at the eighth intercostal space. The thoracic drain was fixed in place with 3/0 nylon (Gabler medical), using a fingertrap suture pattern. The thoracic drain was placed to allow removal of air and fluid and to re-establish negative pressure in the pleural space, and it was left in place during the recovery period. Closure of the intercostal thoracotomy was performed using preplaced 2/0 polydioxanone (Gabler Medical) encircling sutures around the ribs. Traction was applied to one or two sutures while the remaining sutures were tied. The serratus ventralis muscle was reapposed with a simple continuous suture pattern using 4/0 polydioxanone (Gabler Medical), and the subcutaneous tissues and skin were closed routinely. Postoperative recovery was uneventful, and the clinical parameters were within normal limits. The analgesic protocol consisted of fentanyl 3 µg/kg/hour (i/v) constant rate infusion (CRI) (Fresenius Kabi, SA (Pty) Ltd) for 64 hours, ketamine 0.5 mg/kg/hour CRI (i/v) (Fresenius Kabi, SA (Pty) Ltd) for 48 hours and meloxicam 0.1 mg/kg loading dose followed by 0.05 mg/kg maintenance dose (s/c) q 24 hour (Metacam, Boehringer Ingelheim) for 7 days. The patient's clinical parameters were monitored every 4 hours to guide postoperative pain assessment. The patient was fed Hills a/d, a high-calorie soft food (Hills Pet Nutrition), from a height every 4 hours and had a good appetite. The patient was maintained in an upright position for 5–10 minutes after ingestion of food.

Expiratory dyspnoea and tachypnoea were noted 24 hours postoperatively. A white, milky fluid was observed draining from the thoracic drain, and a thoracic point-of-care ultrasound confirmed bilateral pleural effusion. A total of 44 mL of effusion was drained from the thoracic drain over the day, and an additional 40 mL was removed via right-

LEARNING POINTS/TAKE-HOME MESSAGES

- The thoracotomy was performed through the fifth intercostal space, which allowed for good exposure but an approach through the fourth intercostal space could also have been considered.
- Chylothorax should be considered as a differential in a dyspnoeic cat after surgical correction of PRAA with a left ligamentum arteriosum.
- Iatrogenic chylothorax may resolve spontaneously with thoracic drainage alone, without the need for surgical intervention.

TABLE 1 Daily chylous effusion drained per 24 hours.

Days post-operatively	Effusion drained from the left thorax (mL/day)	Effusion drained from the right thorax (mL/day)	Fluid production (mL/kg/day)
1	44	40	42
2	95	73	84
3	39	4.7	22
4	5.9	3.1	4.5
5	0.1	1	0.55
6	Drain removed	Drain removed	–

sided thoracocentesis. The patient's clinical signs improved following drainage. Fluid analysis revealed a triglyceride concentration of 36.6 mmol/L (reference range 0.6–1.4 mmol/L) and a cholesterol concentration of 1.8 mmol/L (reference range 1.8–4.1 mmol/L). Based on these findings with an elevated triglyceride concentration and a cholesterol to triglyceride ratio of <1, a diagnosis of a chylothorax was made, and an additional right thoracic drain was placed using the Seldinger technique at the same rib spaces described for the left thoracic drain.[14] Both drains were connected to an active suction (Mila International, 100-mL Chest tube suction bulb) system, emptied every 4 hours and the volumes recorded. The daily amount drained from each drain and the overall amount drained per kilogram per day were calculated and recorded (Table 1).

OUTCOME AND FOLLOW-UP

Following an initial increase, the volume of chylous effusion then progressively decreased throughout hospitalisation. A total of 44 mL was drained from the left thoracic drain and 40 mL via right-sided thoracocentesis on Day 1. Effusion production peaked on Day 2, with a combined drainage volume of 168 mL. This decreased to approximately 43 mL on Day 3, 9 mL on Day 4 and 1 mL on Day 5 (Table 1). By Day 6, no further effusion was detected on thoracic point-of-care ultrasound, and both thoracic drains were removed. The patient maintained a good appetite and was discharged on Day 7. The owner was advised to feed the cat from an elevated bowl for 6–8 weeks and to gradually introduce solid food during this period. A telephonic follow-up was done 6 months post-operatively. The owner reported that the patient was doing extremely well, gaining weight and eating solid food with no signs of regurgitation.

DISCUSSION

Idiopathic chylothorax in cats is uncommon with only a few reports documented in the veterinary literature.[15, 16] One case report has been published in which chylothorax was seen after a median sternotomy was performed to address a tracheal stricture at the thoracic inlet.[11] During surgery, the left brachiocephalic vein was ligated and chylous effusion was suspected to be secondary to this event.[11] In another study evaluating complications and survival after surgical management of vascular ring anomalies in cats, chylothorax was documented in two cases. In one case, chylothorax developed postoperatively, and the patient unfortunately experienced cardiac arrest during chest tube placement. In the other case, chylous effusion was identified intraoperatively, and a suspected lymphatic leak was ligated with no postoperative chylous effusion observed.[12] The development of chylothorax has been reported in two dogs following surgical correction of a PRAA.[17] In both these cases, spontaneous resolution was noted within 5 days. The definitive cause of the chylothorax was not identified but thoracic duct trauma during surgery was considered the most likely explanation.[17] Tracheal abnormalities have been reported in dogs with PRAA. The mild tracheal deviation seen in the present case at the level of the third and fourth intercostal spaces has been described as a consistent finding in dogs diagnosed with PRAA.[18] In a previous study in which thoracic ducts were experimentally incised or transected, the resulting chylothorax resolved within 5–10 days.[19] Lymphangiography performed after resolution demonstrated restored patency of the thoracic duct, and histopathological evaluation showed no significant differences between normal and healed ducts.[19] In human medicine, the incidence of iatrogenic chylothorax has been reported to occur in approximately 2.5% of paediatric patients undergoing cardiothoracic surgery, and an incidence range of 0.2%–10.5% has been described in patients following oesophagectomy.[10, 20–22]

Chylous effusions are typically described macroscopically as milky white effusions and are classified as modified transudates. Cytological evaluation of a chylous effusion will reveal an increase in small lymphocytes, non-degenerative neutrophils and macrophages, elevated chylomicrons, and positive Sudan III staining for the detection of lipid droplets.[23] Using biochemistry on the effusion, the diagnosis of a chylothorax can be verified by a cholesterol:triglyceride ratio of <1.[14] In our case, the cholesterol:triglyceride ratio was 0.05, strongly supporting a diagnosis of chylothorax. Further evaluation of the pleural fluid, including cytology, additional staining techniques and paired serum cholesterol and triglyceride measurements, was not performed in this case and a limitation of the diagnostic workup was represented. Anatomical variation of the thoracic duct in felines has been well documented in previous lymphangiographic studies.[6] In cats, the thoracic duct typically transcends on the left of the aorta, curving ventrally at the aortic arch.[5] The thoracic duct travels along the dorsolateral margin of the oesophagus in the cranial mediastinum before it terminates at the junction of the left external jugular and left subclavian vein.[4–7] The thoracic duct can be difficult to visualise during thoracic surgery, particularly in fasted patients where the duct is collapsed and chyle blends with serous fluid. This increases the risk of iatro-

genic trauma to the thoracic duct. However, it may still be possible to identify an active chyle leak, and this should be carefully assessed intraoperatively.[12] The use of contrast agents such as indocyanine green (ICG) and methylene blue has been described in experimental and clinical thoracic procedures to aid in intraoperative identification of the thoracic duct.[24–26] Contrast-assisted identification of the thoracic duct was not performed in our case due to the increased morbidity associated with a paracostal approach for mesenteric lymph node injection and the additional general anaesthesia time required for ultrasound-guided injection.[24, 26]

An increase in chyle production was noted 24 hours postoperatively. A thoracostomy tube is usually placed intraoperatively and maintained postoperatively to reestablish the negative pressure in the pleural space and for drainage of effusion. In this case, respiratory signs, including dyspnoea and tachypnoea, warranted further investigation, and the presence of an indwelling thoracostomy tube facilitated early identification and drainage of the chylous effusion. This finding also prompted the placement of a right thoracostomy tube. Both thoracic drains were connected to active suction bulbs to maintain continuous negative pressure and ensure uninterrupted drainage of the chylous effusion. The active suction system remained in place until thoracostomy tube removal, and the patient's respiratory rate and effort were monitored every 4 hours during hospitalisation. The increase in chyle production 24 hours postoperatively is in line with a previous case report in canines that underwent surgical correction of PRAA.[17] This highlights the importance of a thoracostomy tube post-thoracotomy. The thoracostomy tubes were removed on Day 6 postoperatively when the daily volume of chylous effusion had markedly decreased to <1 mL/kg/day. This amount is below the expected baseline fluid production associated with the tube acting as a foreign body (approximately 2.2 mL/kg/day).[27] Due to the nature of the thoracic duct not being visible during surgery without contrast enhancement, the timing and character of the effusion, along with the spontaneous resolution, we suspect that in our case trauma to the thoracic duct occurred during the approach and ligation of the ligamentum arteriosum. The resolution of chylothorax observed in this case was similar to the outcomes reported in previous studies describing postoperative or experimentally induced thoracic duct injury.[11, 17, 19] In patients that develop dyspnoea and tachypnoea post-surgical ligation of a left ligamentum arteriosum in cats with PRAA, chylothorax should be considered as a differential diagnosis. Spontaneous resolution of chylous effusion was achieved by conservative management, indicating that thoracic duct ligation is not a necessity.

Although chylothorax has previously been reported secondary to surgical correction of vascular ring anomalies; to our knowledge, this is the first case report detailing the postoperative management and resolution of chylothorax following PRAA surgery in a cat.

CONCLUSION

This case report highlights the importance of routine placement of a thoracostomy tube following thoracotomy and monitoring for pleural effusion within the first 24–48 hours postoperatively. The use of intraoperative contrast agents could be considered to aid identification and evaluation of the thoracic duct and reduce the risk of iatrogenic trauma during thoracic surgery. This case report demonstrates that medical management alone was sufficient to achieve resolution of chylothorax following iatrogenic injury to the thoracic duct in a cat; however, this outcome may not be generalisable to all patients.

AUTHOR CONTRIBUTIONS

Adriaan D. Pont conceived and designed the project, was primarily involved in the case, analysed and interpreted the clinical results and observations, drafted and edited the manuscript. Elizabeth G. Bester conceived and designed the project, was involved in the case, analysed and interpreted the clinical results and observations, and edited the manuscript. Adriaan M Kitshoff conceived and designed the project, was involved in the case, analysed and interpreted the clinical results and observations, and edited the manuscript.

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CONFLICT OF INTEREST STATEMENT

The authors declare they have no conflicts of interest.

ETHICS STATEMENT

The authors confirm that the ethical policies of the journal, as noted on the journal's author guidelines page, have been adhered to. Informed written owner consent was received, and the research was approved by the animal ethics committee at The University of Pretoria on 06/09/2025 (Ethics reference number REC 117–25). The authors declare that ethical research was conducted. The authors consciously assure that the manuscript is the authors' own original work, which has not been previously published elsewhere and is not currently being considered for publication elsewhere. The paper reflects the authors' own research and analysis in a truthful and complete manner. Furthermore, the paper properly credits the meaningful contributions of co-authors and co-researchers, and the results are appropriately placed in the context of prior and existing research. All sources used are properly disclosed. Lastly, all authors have been personally and actively involved in substantial work leading to the manuscript and will take public responsibility for its content.

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REFERENCES

1. Price AK, Mathews KG. A single left fourth intercostal thoracotomy approach for resolution of idiopathic chylothorax with thoracic duct

ligation and pericardiectomy: a preliminary clinical study in two dogs. Front Vet Sci. 2024;11:1463939.
2. Korpes K, Kolenc M, Trbojević Vukičević T, Đuras M. Anatomical variations of the thoracic duct in the dog. Anat Histol Embryol. 2021;50(6):1015–25..
3. Bezuidenhout A. Regional anatomy of the lymphatic system. In: Evans HE, De Lahunta A, editors. Anatomy of the dog. 5th ed. St. Louis, Missouri: Elsevier; 2018. p. 616–49..
4. Lindsay F. The cisterna chyli and thoracic duct of the cat 1. An anatomical study. J Anat. 1974;117(2):403–12.
5. Tobias KM, Darrow BG, Radlinsky MG. Thoracic Cavity. In: Tobias KM, Johnston SA, editors. Veterinary surgery small animal. 2nd ed. St Louis, Missouri: Elsevier; 2018. p. 2019–47.
6. Lee N, Won S, Choi M, Kim J, Yi K, Chang D, et al. CT thoracic duct lymphography in cats by popliteal lymph node iohexol injection. Vet Radiol Ultrasound. 2012;53(2):174–80.
7. Kim M, Lee H, Lee N, Choi M, Kim J, Chang D, et al. Ultrasound-guided mesenteric lymph node iohexol injection for thoracic duct computed tomographic lymphography in cats. Vet Radiol Ultrasound. 2011;52(3):302–5.
8. Cerfolio RJ, Allen MS, Deschamps C, Trastek VF, Pairolero PC. Postoperative chylothorax. JTCVS. 1996;112(5):1361–6.
9. Fahimi H, Casselman FP, Mariani MA, Van Boven WJ, Knaepen PJ, Van Swieten HA. Current management of postoperative chylothorax. Ann Thorac Surg. 2001;71(2):448–50.
10. Beghetti M, La Scala G, Belli D, Bugmann P, Kalangos A, Le Coultre C. Etiology and management of pediatric chylothorax. J Pediatr. 2000;136(5):653–8.
11. Greenberg MJ, Weisse CW. Spontaneous resolution of iatrogenic chylothorax in a cat. JAVMA. 2005;226(10):1667–70.
12. Bascuñán A, Regier PJ, Case JB, Singh A, Balsa I, Flanders J, et al. Vascular ring anomalies in cats: 20 cases (2000-2018). Vet Surg. 2020;49(2):265–73.
13. Kyles AE, Huck JL. Esophagus. In: Tobias KM, Johnston SA, editors. Veterinary surgery small animal. 2nd ed. St Louis, Missouri: Elsevier; 2018. p. 1677–700.
14. Fossum TW, Jacobs RM, Birchard SJ. Evaluation of cholesterol and triglyceride concentrations in differentiating chylous and nonchylous pleural effusions in dogs and cats. JAVMA. 1986;188(1):49–51.
15. Thompson MS, Cohn LA, Jordan RC. Use of rutin for medical management of idiopathic chylothorax in four cats. JAVMA. 1999;215(3):345–8.
16. Reeves LA, Anderson KM, Luther JK, Torres BT. Treatment of idiopathic chylothorax in dogs and cats: a systematic review. Vet Surg. 2020;49(1):70–79.
17. Barbur L, Millard HT, Baker S, Klocke E. Spontaneous resolution of postoperative chylothorax following surgery for persistent right aortic arch in two dogs. JAAHA. 2014;50(3):209–15.
18. Buchanan JW. Tracheal signs and associated vascular anomalies in dogs with persistent right aortic arch. JVIM. 2004;18(4):510–4.
19. Hodges CC, Fossum TW, Evering W. Evaluation of thoracic duct healing after experimental laceration and transection. Vet Surg. 1993;22(6):431–5.
20. Mcgrath EE, Blades Z, Anderson PB. Chylothorax: aetiology, diagnosis and therapeutic options. Respir Med. 2010;104(1):1–8.
21. Wemyss-Holden S, Launois B, Maddern G. Management of thoracic duct injuries after oesophagectomy. BJS. 2001;88(11):1442–8.
22. Bolger C, Walsh TN, Tanner WA, Keeling P, Hennessy TPJ. Chylothorax after oesophagectomy. BJS. 1991;78(5):587–8.
23. Murphy K, Papasouliotis K. Pleural effusions in dogs and cats: 1. Diagnostic investigation. In Practice. 2011;33(9):462–9.
24. Davies GF, Hardie RJ, Wild JL, Loeber SJ. Lymphaticovenous anastomosis of the caudal thoracic duct to the azygous vein: a feline cadaver study. Vet Surg. 2024;53(7):1231–8.
25. Kim K, Cheon S, Kang K, Hwang Y, Oh D, Yoon J, et al. Computed tomographic lymphangiography of the thoracic duct by subcutaneous iohexol injection into the metatarsal region. Vet Surg. 2020; 49(1):180–6.
26. Korpita MF, Mayhew PD, Steffey MA, Balsa IM, Giuffrida MA, Chohan AS, et al. Thoracoscopic detection of thoracic ducts after ultrasound-guided intrahepatic injection of indocyanine green detected by near-infrared fluorescence and methylene blue in dogs. Vet Surg. 2022;51(1):O118-27.
27. Fossum TW F. Surgery of the lower respiratory system: pleural cavity and diaphragm. In: Fossum TW, MacPhail C, editors. Small animal surgery. 5th ed. St Louis, Missouri: Elsevier; 2019. p. 916–56.

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