Feline bronchorrhea: A retrospective study of 18 cases (2012－2017)

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Introduction

Chronic pulmonary disease in cats that exhibit rattling sounds and airway hypersecretion through bronchoscopy is often experienced, however clinical information on this disease is limited. This feline disease is comparable to human bronchorrhea. This study aims to describe the clinical features of feline bronchorrhea.

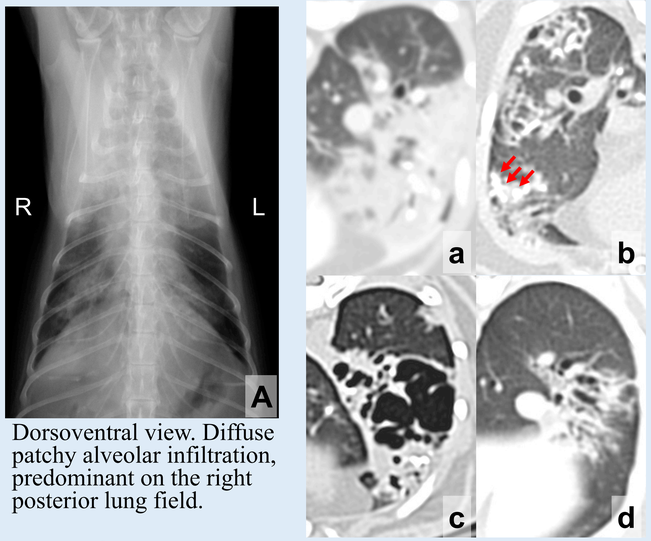
Materials and Methods

Medical records of 18 cats with over 1-month episodes of intermittent rattling, moist cough, respiratory efforts, pulmonary infiltrates or interstitial pattern on chest X-ray, and airway hypersecretion diagnosed with bronchoscopy between 2012 and 2017 were reviewed. $P < 0.05$ was considered as statistically significant.

Results

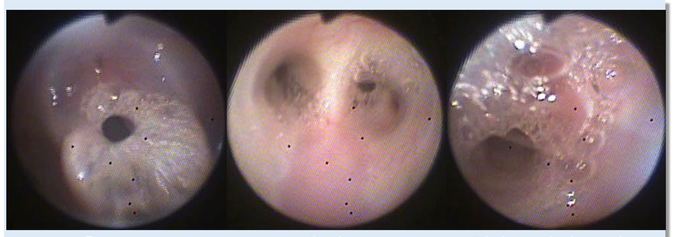
Table 1. Characteristics of 18 cats

Signal-ment	Male > Female Middle age: 8.5 (6－13) years Russian blue 7, American Shorthair 5, others 6
Symp-toms	Cough duration: 18 (1－96) months Infrequent moist cough (3－10/day) : 44% (8/18)
Signs	Rapid and labored breathing: 40－80 breaths/min Coarse crackles (+): 28% (5/18)
Other exam.	Without CVS involvement: 89% (16/18) Mild hypoxemia: Pao_2 69.5 ± 11.2 mmHg



Dorsoventral view. Diffuse patchy alveolar infiltration, predominant on the right posterior lung field.

Fig 1. Chest X-ray and chest CT.
Chest X-ray (n = 18) revealed diffuse patchy alveolar infiltration (*A*) in 15 cats (83%); hyperinflation in 7 (39%) ; broncholithiasis in 4 (22%). Chest CT (n = 6) revealed consolidation with multiple cysts (*a*) in 3 cat (50%); broncholithiasis (*b; red arrows*) in 3 (50%); multiple cysts (*c*) in 2 (33%); reticular opacities (*d*) in 2 (33%). CT: computed tomography.



Larynx　　Carina　　Right main bronchus

Fig 2. Bronchoscopy.
Bronchoscopy (n=18) revealed watery hypersecretion in the large airway in 16 cats (89%) . In bronchoalveolar lavage fluid (n=9) , mean foamy macrophages percentage exhibited in 68% with mean neutrophils percentage elevated in 22%, and bacterial cultures of bronchial brushing samples (n=18) were negative in 16 cats (89%).

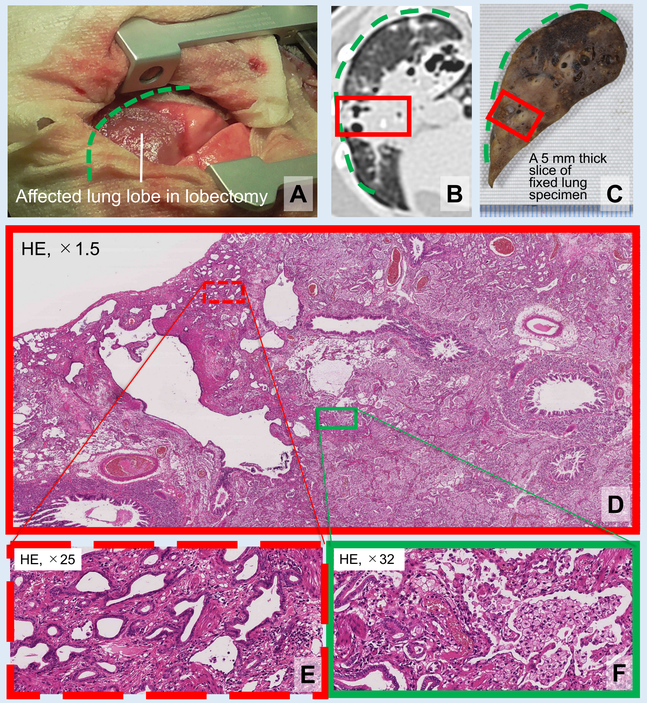


Fig 3. Lobectomy and lung pathology.
Five cats underwent lobectomy. Affected lung surfaces appeared well-defined, hollow, and localized atelectasis on the lobe, which seemed like a rotten fruit (*A*). Consolidation on CT (*B*) pathologically indicated interstitial pneumonia with fibrosis of the alveolar septa and accumulations of foamy macrophages in alveoli, that may, in part, represent pathology of a feline idiopathic pulmonary fibrosis (IPF)-like condition[1,2] (*C-F*).

Table 2. Survival time and good prognostic factors.

Median overall survival time: 361 days 60-day survival rate: 72.2%
Good prognostic factors
Age on admission < 10 years ($P < 0.05$) No enlargement of thoracic lymph nodes on CT ($P < 0.05$)

Table 3. Outcomes following therapies.

Treatment	n /18	Mean ST (days)		Positive association with QOL
		(+)	(-)	
Feasible combined therapies	16	374*	9	No
Steroid	10	362	296	No
IPV	6	331	324	No
Home oxygen therapy	5	206	382	No
Lobectomy	**5**	**596***	**222**	**Yes***
Sultanol inhalation	3	397	321	No
Indomethacin inhalation	1	318	-	No

IPV: Intrapulmonary percussive ventilator, *: $P < 0.05$

Conclusion

Feline bronchorrhea has distinguishing clinical characteristics with relatively poor prognosis. Early identification, initiation of even one feasible therapy, and, if possible, lobectomy can enhance the prognosis. Feline bronchorrhea may, in part, represent clinical aspects of a feline IPF-like condition[1,2].

Acknowledgements

The VeRMS Study Group thanks Companion Animal Medical Imaging Center Co.,Ltd and Yasuda Animal Hospital CT•MRI Center for providing CT images, also thanks Amanecer Corp. for presenting histological images.

Conflict of Interest Disclosure

The primary presenter has nothing to disclose.

References

1) Williams K, et al. *Chest* 2004;125:2278-2288.
2) Cohn LA, et al. *J Vet Intern Med* 2004;18:632-641.