

**VETERINÆRDAGENE 2025**  
12.-14. mars, Trondheim    Tema: Beredskap

DEN NORSKE VETERINÆRFORENING

## Feline Gastrointestinal diseases: a clinical approach

Maria Lyraki DVM MSc DipECVIM-CA MRCVS  
EBVS and RCVS Recognised specialist in Small Animal Internal Medicine

PLACKENTIA



---

---

---

---

---

---


---

---

1

### Voula, 8y8m Female Neutered DSH

- 4 weeks of vomiting
- Weight loss (500gr in 4 weeks)
- Indoor-only
- FIV antibody positive
- No previous history of illness
- No drug or toxin exposure
- Vaccinated
- No recent flea/worm prevention



---

---

---

---

---

---


---

---

2

### Voula, 8y8m Female Neutered DSH

- Dull coat
- Mild cranial abdominal pain



---

---

---

---

---


---

---

---

3

**Differentials for chronic vomiting**  
**Extra-gastrointestinal**



<b>Uraemia</b>	<b>Hepatic/pancreatic disease</b> <ul style="list-style-type: none"> <li>• Pancreatitis</li> <li>• Cholangitis</li> <li>• Hepatitis</li> <li>• Cholecystitis</li> <li>• Hepatic dysfunction / portosystemic shunt</li> </ul>	<b>Endocrine disease</b> <ul style="list-style-type: none"> <li>• Hyperthyroidism</li> <li>• Hypoadrenocorticism</li> </ul>	<b>Miscellaneous</b> <ul style="list-style-type: none"> <li>• Drug-induced</li> <li>• Toxin-induced</li> <li>• Extra-GI neoplasia</li> <li>• Other</li> </ul>
----------------	--	---	---

---

---

---

---

---


---

---

---

4

**Differentials for chronic vomiting**  
**Gastrointestinal**



<b>Inflammatory</b> <ul style="list-style-type: none"> <li>• Food-responsive</li> <li>• Steroid-responsive</li> <li>• Antibiotic-responsive</li> <li>• Eosinophilic sclerosing fibroplasia</li> </ul>	<b>Infectious</b> <ul style="list-style-type: none"> <li>• Bacterial</li> <li>• Viral</li> <li>• Parasitic</li> <li>• Protozoal</li> <li>• Fungal</li> <li>• Algae</li> </ul>	<b>Neoplasia</b> <ul style="list-style-type: none"> <li>• Benign e.g. polyps, adenoma, leiomyoma</li> <li>• Round cell tumors</li> <li>• Epithelial tumors</li> <li>• Mesenchymal tumors</li> </ul>	<b>Mechanical / Functional / Anatomical disorder</b> <ul style="list-style-type: none"> <li>• Foreign body</li> <li>• Mass lesion</li> <li>• Pyloric hypertrophy</li> <li>• Ileus</li> <li>• Diaphragmatic hernia</li> <li>• Hiatal hernia</li> <li>• Pyloric hypertrophy</li> </ul>
---	---	---	--

---

---

---

---

---


---

---

---

5

**Minimum investigations**



Haematology	Biochemistry <small>ALT, ALP, bilirubin, cholesterol, GGT, urea, creatinine, albumin, globulin, total protein</small>	Electrolytes
FeLV and FIV	Vitamin B12 folic acid	Thyroxine
	Abdominal ultrasound	

---

---

---

---

---


---

---

---

6

### Case – dependent investigations



Bile acids and ammonia	ACTH stimulation test	Serum electrophoresis/acute phase proteins
fPLI	Urinalysis and UPC	X-rays thorax or CT scan of the thorax and abdomen
FNA lymph nodes/liver/spleen/cholecystocentesis, other		Faecal tests culture, parasitology, PCR

---

---

---

---

---


---

---

---

7

### Blood work findings



- Mild leukocytosis
  - Eosinophilia
  - Neutrophilia
  - Monocytosis
- Thrombocytopenia
  - Aggregates in blood smear
- FIV antibody ELISA positive

---

---

---

---

---


---

---


---

8

### Ultrasonographic findings



- Duodenal mass
- Enlarged gastric lymph nodes (moderate, 1cm)




---

---

---

---


---

---

---

---

9



### Problems' list

- Chronic vomiting
- Leukocytosis – eosinophilia
- FIV positive
- Duodenal mass
- Enlarged gastric lymph nodes (moderate, 1cm)

---

---

---

---


---

---

---

---

10



### Differential diagnoses - Duodenal mass in a cat

<p><b>Neoplasia</b></p> <ul style="list-style-type: none"> <li>• Benign e.g. gastric polyps</li> <li>• Lymphoma (Large-cell)</li> <li>• Mastocytoma</li> <li>• Plasma-cell tumors</li> <li>• Histiocytic sarcoma</li> <li>• Adenocarcinoma</li> <li>• Gastrinoma</li> <li>• Leiomyosarcoma</li> <li>• Other</li> </ul>	<p><b>Eosinophilic sclerosing fibroplasia</b></p>	<p><b>Granuloma</b></p> <ul style="list-style-type: none"> <li>• FIP</li> <li>• Tuberculosis</li> <li>• Toxoplasma</li> <li>• Fungal disease</li> <li>• Foreign body/trauma</li> <li>• Other</li> </ul>
--	---	---

---

---

---

---


---

---

---

---

11



### Differential diagnoses - Duodenal mass in a cat

<p><b>Neoplasia</b></p> <ul style="list-style-type: none"> <li>• Benign e.g. gastric polyps</li> <li>• Lymphoma (Large-cell)</li> <li>• Mastocytoma</li> <li>• Plasma-cell tumors</li> <li>• Histiocytic sarcoma</li> <li>• Adenocarcinoma</li> <li>• Gastrinoma</li> <li>• Leiomyosarcoma</li> <li>• Other</li> </ul>	<p><b>Eosinophilic sclerosing fibroplasia</b></p>	<p><b>Granuloma</b></p> <ul style="list-style-type: none"> <li>• FIP</li> <li>• Tuberculosis</li> <li>• Toxoplasma</li> <li>• Fungal disease</li> <li>• Foreign body/trauma</li> <li>• Other</li> </ul>
--	---	---

Not all masses are cancer!

Whenever you strongly suspect mass pre-endoscopy, take biopsies not only for histopathology but also keep in plain tube for cultures, PCR

---

---

---

---

---

---

---

---

12



**Histopathology**

**LAB REFERENCE:**

**DIAGNOSIS(ES)**

1) Stomach: minimal lymphoplasmacytic superficial mucosal infiltrate.  
 1.1) Small intestine: enteritis, chronic, moderate, lymphoplasmacytic and eosinophilic, multifocal to coalescing. Please see comment below.  
 2) Spleen: minimal to moderate multifocal to coalescing moderate to marked fibroplasia with mixed partially pronounced eosinophilic infiltrate, suggestive of feline gastrointestinal eosinophilic fibroplasia.

---

---

---

---

---

---

---

---

16

**Feline Eosinophilic Sclerosis Fibroplasia**

- Eosinophilic mass(es) in the gastrointestinal tract and associated abdominal lymph nodes, mesentery, most commonly near the pylorus or ileocolic junction
- Intralesional bacteria and fungal microorganisms can occasionally be detected in biopsies
- Treatment consists of a combination of surgery, immunosuppression, hydrolysed protein with or without antimicrobial agents
- Prognosis can be good, 88% of cats survived

ACVIM JOURNAL OF VETERINARY INTERNAL MEDICINE

CLINICOPATHOLOGICAL FINDINGS, TREATMENT, AND OUTCOME IN 43 CATS WITH GASTROINTESTINAL EOSINOPHILIC SCLEROSING FIBROPLASIA

---

---

---

---

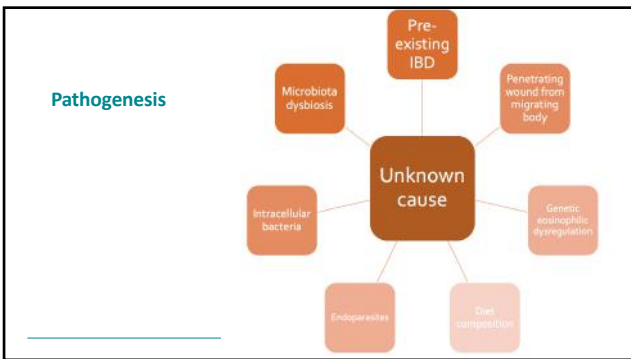
---

---

---

---

17




---

---

---

---

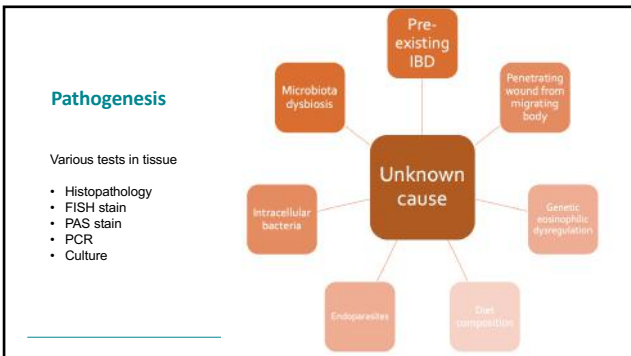
---

---

---

---

18




---

---

---

---

---

---

---

---

19

### Clinical presentation

Journal of Veterinary Internal Medicine, ACVIM

STANDARD ARTICLE

**Clinicopathological findings, treatment, and outcome in 60 cats with gastrointestinal eosinophilic sclerosing fibroplasia**

Peter Caspi<sup>1,2</sup> | Cristóbal Lopez-Ibanez<sup>1</sup> | Kjetil Fukuoka<sup>3</sup> |  
 Heidebrand<sup>4</sup> | Yasuko Nakagawa<sup>5</sup> | Frank Adam<sup>6</sup> | Jens Olov<sup>7</sup> |  
 Andrew Downing<sup>8</sup> | Mikko Havelka<sup>9</sup> | David A. Green-House<sup>10</sup>

- Young to middle-aged cats (mean age 5.4 years)
- 58% pure breeds - 42% of them Ragdolls
- Chronic signs (~3 months)
- 58% had a palpable abdominal mass
- 60% weight loss
- 50% had eosinophilia in haematology
- 98% received glucocorticoids among other treatments

---

---

---

---

---

---

---

---

20

### Clinical presentation

Journal of Veterinary Internal Medicine, ACVIM

STANDARD ARTICLE

**Clinicopathological findings, treatment, and outcome in 60 cats with gastrointestinal eosinophilic sclerosing fibroplasia**

Peter Caspi<sup>1,2</sup> | Cristóbal Lopez-Ibanez<sup>1</sup> | Kjetil Fukuoka<sup>3</sup> |  
 Heidebrand<sup>4</sup> | Yasuko Nakagawa<sup>5</sup> | Frank Adam<sup>6</sup> | Jens Olov<sup>7</sup> |  
 Andrew Downing<sup>8</sup> | Mikko Havelka<sup>9</sup> | David A. Green-House<sup>10</sup>

---

---

---

---

---

---

---

---

21

**Clinical presentation**

Journal of Veterinary Internal Medicine ACVIM  
 STANDARD ARTICLE  
 Clinico-pathological findings, treatment, and outcome in 60 cats with gastrointestinal eosinophilic sclerosing fibroplasia  
 Petra Cava<sup>1,2</sup>, Cristinel Lapesi-Dimonescu<sup>1</sup>, Koenig Aleksandra<sup>1</sup>,  
 Anu Nalankant<sup>1</sup>, Tanabe Mikageomi<sup>1</sup>, Petrus Adam<sup>1</sup>, Jeroen Gijbels<sup>1</sup>,  
 Andrew Downing<sup>1</sup>, Mikaela Ivanovic<sup>1,3</sup>, Danielle A. Green-McCann<sup>1</sup>

---

---

---

---

---

---

---

---

22

**Clinical presentation**

Journal of Veterinary Internal Medicine ACVIM  
 STANDARD ARTICLE  
 Clinico-pathological findings, treatment, and outcome in 60 cats with gastrointestinal eosinophilic sclerosing fibroplasia  
 Petra Cava<sup>1,2</sup>, Cristinel Lapesi-Dimonescu<sup>1</sup>, Koenig Aleksandra<sup>1</sup>,  
 Anu Nalankant<sup>1</sup>, Tanabe Mikageomi<sup>1</sup>, Petrus Adam<sup>1</sup>, Jeroen Gijbels<sup>1</sup>,  
 Andrew Downing<sup>1</sup>, Mikaela Ivanovic<sup>1,3</sup>, Danielle A. Green-McCann<sup>1</sup>

---

---

---

---

---

---

---

---

23

**Treatment**

- Surgery to excise the mass if possible
- Immunosuppression
- Supportive
  - Pain relief
  - Hydrolysed protein
  - B12 or folic acid supplementation if there is deficiency
  - Pre/probiotics or faecal transplant if dysbiosis suspected)
  - Empirical broad-spectrum antiparasitic treatment
- Antimicrobials
  - Evidence of infectious agent
  - Risk of gut-derived sepsis
  - FIV patient

---

---

---

---

---


---

---

---

24





## Treatment

- Surgery to excise the mass if possible
- Immunosuppression
- Supportive
  - Hydrolysed protein
  - B12 or folic acid supplementat
  - Pre/probiotics or faecal transp
  - Empirical broad-spectrum anti
- Antimicrobials
  - Evidence of infectious agent
  - Risk of gut-derived sepsis
  - FIV patient

Veterinary Pathology  
 Volume 46, Issue 1, January 2009, Pages 63-70  
 © 2009 American College of Veterinary Pathologists, Article Reuse Guidelines  
<https://doi.org/10.1354/vp.06-1-63>

Diagnostic Pathology  
**Feline Gastrointestinal Eosinophilic Sclerosing Fibroplasia**  
 L. E. Craig<sup>1</sup>, E. E. Hardam<sup>2</sup>, D. M. Hertzke<sup>4</sup>, B. Fluffland<sup>1</sup>, B. W. Rohrbach<sup>2</sup>, and R. Moore<sup>2</sup>

Cats receiving glucocorticoids had a better survival than those that did not regardless of surgery

---

---

---

---

---

---


---

---

---


---

25



## Charis, 13y MN DLH

- 4 months vomiting
- 4 months diarrhea (mixed pattern)
- Weight loss (50% of bodyweight in 4 months)
- Indoor-only
- No previous history of illness
- No drug or toxin exposure
- Vaccinated
- No recent flea/worm prevention



---

---

---

---

---

---

---

---

---

---

26



## Charis, 13y MN DLH

- Poor coat quality
- Thin body condition score



---

---

---

---

---

---

---


---

---

---

27

**Differentials for chronic vomiting/diarrhoea**  
**Extra-gastrointestinal**



<b>Uraemia</b>	<b>Hepatic/pancreatic disease</b> <ul style="list-style-type: none"> <li>• Pancreatitis</li> <li>• Cholangitis</li> <li>• Hepatitis</li> <li>• Cholecystitis</li> <li>• Hepatic dysfunction / portosystemic shunt</li> </ul>	<b>Endocrine disease</b> <ul style="list-style-type: none"> <li>• Hyperthyroidism</li> <li>• Hypoadrenocorticism</li> </ul>	<b>Miscellaneous</b> <ul style="list-style-type: none"> <li>• Drug-induced</li> <li>• Toxin-induced</li> <li>• Extra-GI neoplasia</li> <li>• Other</li> </ul>
----------------	--	---	---

---

---

---

---

---


---

---

---

28

**Differentials for chronic vomiting/diarrhoea**  
**Gastrointestinal**



<b>Inflammatory</b> <ul style="list-style-type: none"> <li>• Food-responsive</li> <li>• Steroid-responsive</li> <li>• Antibiotic-responsive</li> <li>• Eosinophilic sclerosing fibroplasia</li> </ul>	<b>Infectious</b> <ul style="list-style-type: none"> <li>• Bacterial</li> <li>• Viral</li> <li>• Parasitic</li> <li>• Protozoal</li> <li>• Fungal</li> <li>• Algae</li> </ul>	<b>Neoplasia</b> <ul style="list-style-type: none"> <li>• Benign e.g. polyps, adenoma, leiomyoma</li> <li>• Round cell tumors</li> <li>• Epithelial tumors</li> <li>• Mesenchymal tumors</li> </ul>	<b>Mechanical / Functional / Anatomical disorder</b> <ul style="list-style-type: none"> <li>• Foreign body</li> <li>• Mass lesion</li> <li>• Pyloric hypertrophy</li> <li>• Ileus</li> <li>• Diaphragmatic hernia</li> <li>• Hiatal hernia</li> <li>• Pyloric hypertrophy</li> </ul>
---	---	---	--

---

---

---

---

---


---

---

---

29

**Minimum investigations**



Haematology	Biochemistry ALT, ALP, bilirubin, cholesterol, GGT, urea, creatinine, albumin, globulin, total protein	Electrolytes
FeLV and FIV	Vitamin B12 folic acid	Thyroxine
Abdominal ultrasound	fPLi	

---

---

---

---

---


---

---

---

30

**Case – dependent investigations**



Bile acids and ammonia	ACTH stimulation test	Serum electrophoresis/acute phase proteins
Urinalysis and UPC	X-rays thorax or CT scan of the thorax and abdomen	FNA lymph nodes/liver/spleen/cholecystocentesis, other
Faecal tests culture, parasitology, PCR		Tritrichomonas PCR

---

---

---

---

---


---

---

---

31

**Blood work findings**



- Mild hypoalbuminaemia
- Low vitamin B12

---

---

---

---

---


---

---

---

32

**Ultrasound findings**



- Unremarkable

---

---

---

---

---


---

---

---

33

**Problems' list**



- Chronic vomiting and diarrhoea
- Weight loss
- Mild hypoalbuminaemia
- Low vitamin B12

---

34

---

---

---

---


---

---

---

---

**Differential diagnoses**



- Inflammatory
  - Food-responsive
  - Steroid – responsive
  - Antibiotic - responsive
- Neoplasia - Lymphoma (Small-cell, Large-cell)
- Infectious
  - Parasitic
  - Protozoal
  - Bacterial

---

35

---

---

---

---


---

---

---

---

**Differential diagnoses**



- Inflammatory
  - Food-responsive
  - Steroid – responsive
  - Antibiotic - responsive
- Neoplasia - Lymphoma (Small-cell, Large-cell)
- ~~• Infectious~~
  - ~~• Parasitic~~
  - ~~• Protozoal~~
  - ~~• Bacterial~~

---

36

---

---

---

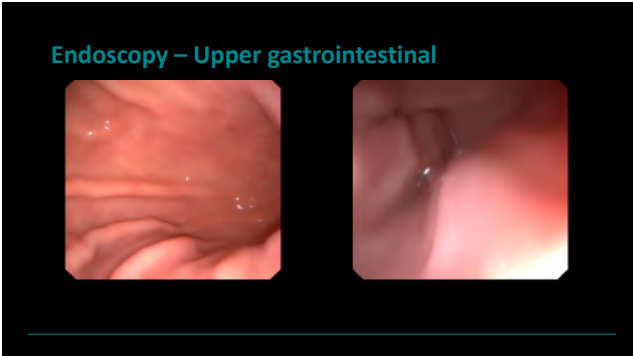
---

---

---

---

---



37

---

---

---

---

---

---

---

---



38

---

---

---

---

---


---

---

---

**Endoscopy – Upper gastrointestinal**

- Stomach was unremarkable
- Duodenum - Only mild changes - erythema, blunted villi, a few petechiae



DEN NORSKE  
VETERINÆRFORENING

39

---

---

---

---

---

---

---

---

**Histopathology**

**LAB REPORT: Charte**

**Material: tissue material**

**Histopathology: GI tract parts**

**Submittal: 10x magnification, microscopic description**

**DIAGNOSIS(ES)**

1) Stomach: minimal lymphoplasmacytic and occasionally polymorphonuclear superficial mucosal infiltrate with multifocal mild lymphofollicular hyperplasia in lamina propria.

2) Small intestine: rather monomorphic round cell population with intraepithelial clustering, based upon routinely H&E stained tissue, highly suggestive of lymphoproliferative disorder type 2 EATL.

**DETAILED DESCRIPTION**

The superficial mucosal layers of the stomach and small intestine were examined. The stomach shows a mild lymphoplasmacytic infiltrate in the lamina propria, with occasional polymorphonuclear cells. Multifocal mild lymphofollicular hyperplasia is present. The small intestine shows a rather monomorphic population of round cells with intraepithelial clustering, suggestive of a lymphoproliferative disorder type 2 EATL.

**STATISTICS**

Number of slides: 10

Number of sections: 10

**REMARKS**

1) Stomach: minimal lymphoplasmacytic and occasionally polymorphonuclear superficial mucosal infiltrate with multifocal mild lymphofollicular hyperplasia in lamina propria.

2) Small intestine: rather monomorphic round cell population with intraepithelial clustering, based upon routinely H&E stained tissue, highly suggestive of lymphoproliferative disorder type 2 EATL.

**DISCUSSION**

1) Stomach: minimal lymphoplasmacytic and occasionally polymorphonuclear superficial mucosal infiltrate with multifocal mild lymphofollicular hyperplasia in lamina propria.

2) Small intestine: rather monomorphic round cell population with intraepithelial clustering, based upon routinely H&E stained tissue, highly suggestive of lymphoproliferative disorder type 2 EATL.

**CONCLUSIONS**

1) Stomach: minimal lymphoplasmacytic and occasionally polymorphonuclear superficial mucosal infiltrate with multifocal mild lymphofollicular hyperplasia in lamina propria.

2) Small intestine: rather monomorphic round cell population with intraepithelial clustering, based upon routinely H&E stained tissue, highly suggestive of lymphoproliferative disorder type 2 EATL.

40

---

---

---

---

---

---

---

---

---

---

**Small cell lymphoma**

- Low grade Intestinal Lymphoma
- Slow onset and progression of clinical signs
- Can be difficult to distinguish from lymphoplasmacytic enteropathy in biopsies
- Additional tests such as immunohistochemistry (1<sup>st</sup> line) or PARR (2<sup>nd</sup> line) may help
- The initial response to chemotherapy has been shown to be the most significant prognostic indicator
- Long survival times have been reported (MST 7–10 months, in comparison to MST of less than 70 days in large-cell lymphoma)
- A few cats may progress to large-cell lymphoma

41

---

---

---

---

---

---

---

---

---

---

**Treatment**

- Prednisolone 2mg/kg/day for 4 weeks, gradual tapering every 3 weeks to minimum dose that controls signs
- Chlorambucil
  - 2mg/cat EOD or 20mg/m2 once every 2 weeks
  - Monthly blood work monitoring
- Supportive
  - Diet
  - Vitamin B12
- Regular blood work monitoring

42

---

---

---

---

---

---

---


---

---

---

### Treatment protocols in literature

Study	Lingard et al. 2009 <sup>23</sup>	Stein et al. 2010 <sup>24</sup>	Fonlacari et al. 1999 <sup>25</sup>	Kozlow et al. 2008 <sup>26</sup>
Number of cases	12	28	29	41
Prednisolone	3 mg/kg PO every 24 h, tapering to 1-2 mg/kg once in remission	1-2 mg/kg PO every 24 h	10 mg/cat/day PO	5 mg/cat PO every 12-24 h
Chlorambucil	15 mg/m <sup>2</sup> PO every 24 h for 4 days every 3 weeks	20 mg/m <sup>2</sup> PO every 2 weeks	15 mg/m <sup>2</sup> PO every 24 h for 4 days every 3 weeks	2 mg/cat PO every 48 h
Number responding	—	27 (96%)	—	37 (90%)
Complete remission rate	—	—	20 (69%)	22 (56%)
Median remission time (days)	505	786	615	897
Median survival time (days)	513	—	510	704




---

---

---

---

---

---

---

---

43



Thank you very much for your attention!

Any questions?

[marialyraki@outlook.com](mailto:marialyraki@outlook.com)

---

---

---

---

---

---

---

---

44