

Feline Lymphoma: Best Protocols for 2022!

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Approach What Causes Lymphoma Diagnostics Prognostic Factors Best Treatments



Approach



**The Single Most Important
Thing in all of Veterinary
Medicine is:**

Compassionate Care!



Coffee Cat

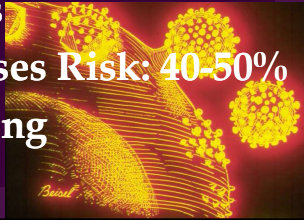


Approach What Causes Lymphoma

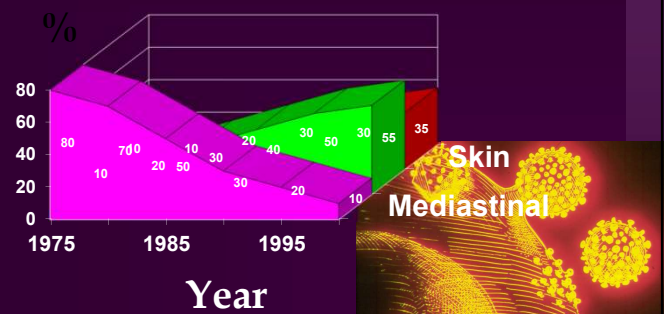


Feline Lymphoma

- Average Age
 - FeLV-: 7 years
 - FeLV+: 3 years
- Spaying Decreases Risk: 40-50%
- Cigarette Smoking



Feline Lymphoma



Lymphoma

- Etiology (Am J Epidemiol 02 1:56;268)
 - Increased Risk with Smoking!
 - Directly Related to # Packs



Approach What Causes Lymphoma Diagnostics



Compassionate Diagnostics

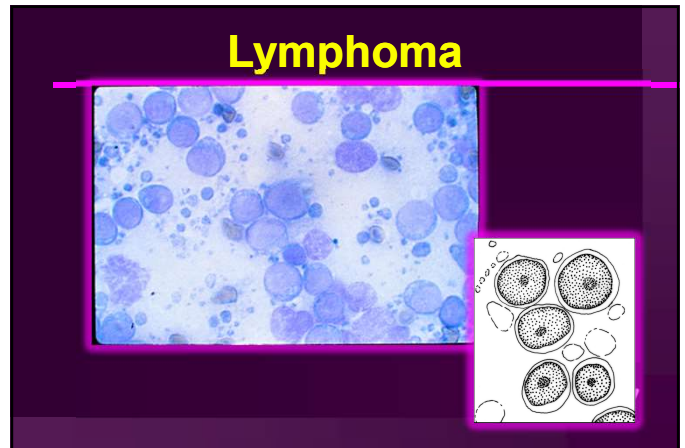
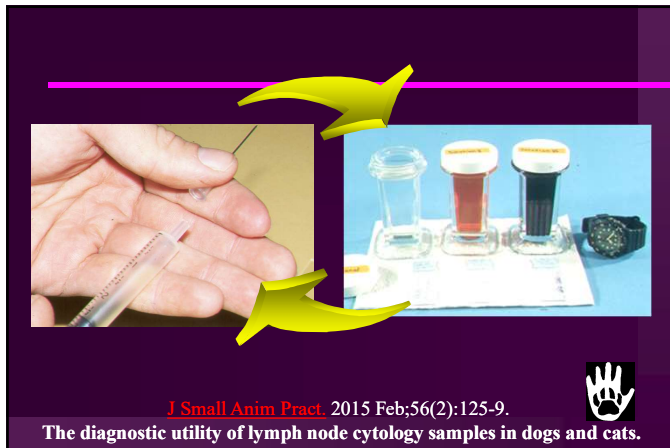
- Approach to the Lymphoma Patient
 - Provide "TLC"
 - Tissue Diagnosis
 - Location of the Cancer
 - Condition of Patient



Lymphoma

- Tissue Diagnosis
 - Aspirate: Screening Tool!
 - Biopsy: Answer!
 - PARR: Molecular Assist!
 - Flow Cytometry: Evolving Diagnostic





Lymphoma

- Approach to the Cancer Patient
 - Provide "TLC"
 - Location of the Cancer

Staging



Lymphoma: TLC

- GI
- Renal
- Nasal
- Liver
- Spleen
- Lymph Nodes
- Bone Marrow

Staging
Anatomic Site!



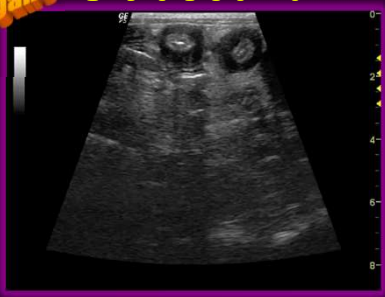

Lymphoma: TLC

- Abdominal Rads/US
 - Liver/Spleen/ Nodes/Kidney/GI
- Chest Rads
 - Mediastinal Mass
- CT or Radiographs
 - Nasal

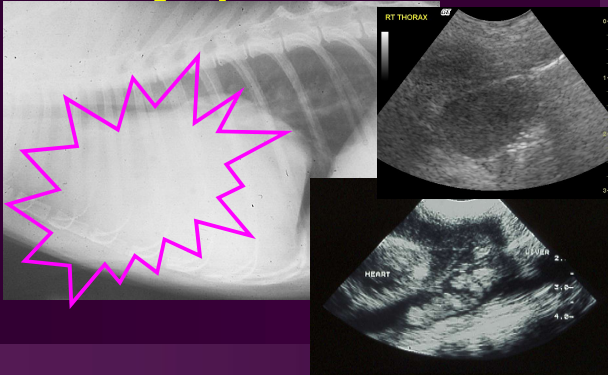


Best Diagnostics: Ultrasound

Solid, Soft Tissue Organs



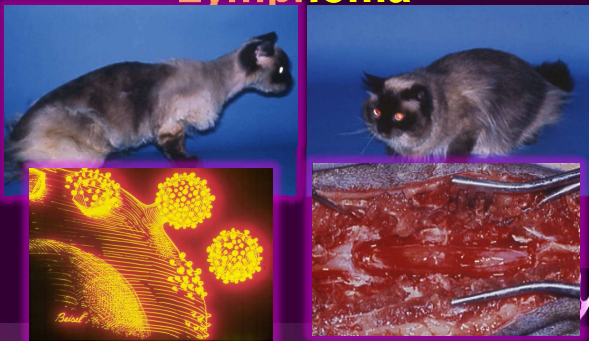

Lymphoma: TLC



Acute Posterior Paresis



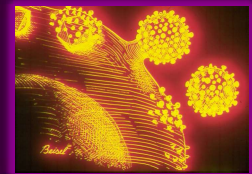
Extradural, FeLV+, BM+ Lymphoma



Lymphoma: TLC

■ Condition of Patient

- CBC
- Biochemical Profile
- UA
- FeLV

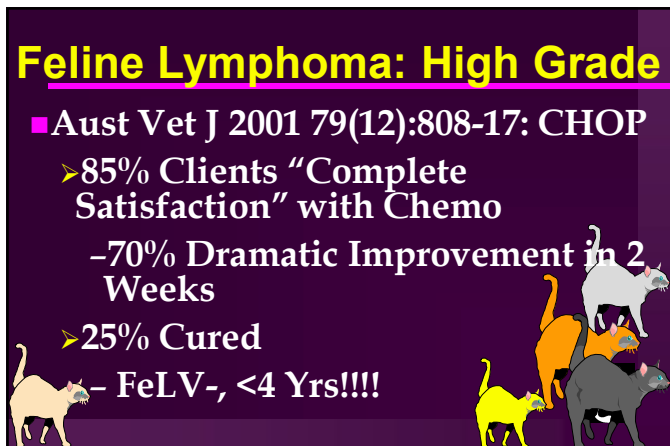
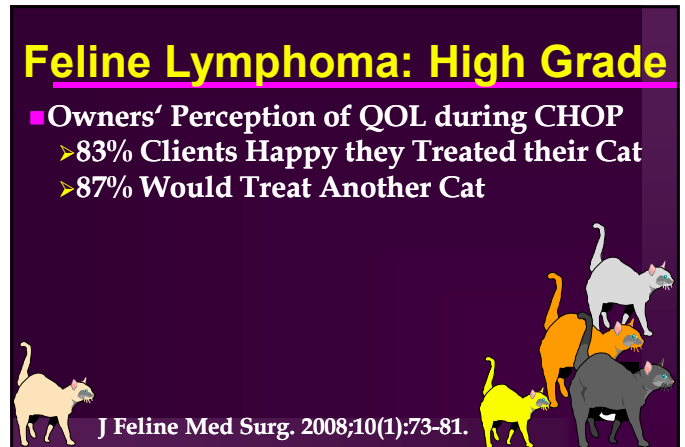
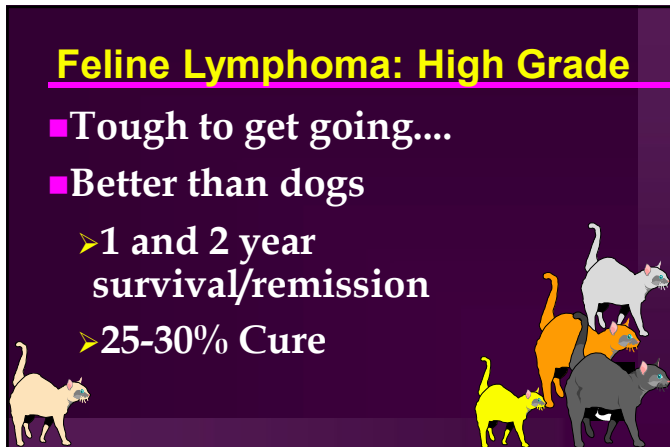


Approach What Causes Lymphoma Diagnostics Prognostic Factors

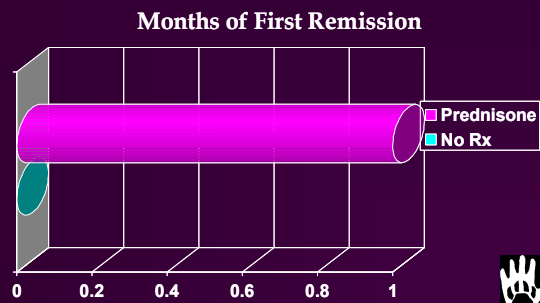
Feline Lymphoma

■ Prognostic Factors

- Anatomic Site/Stage
 - ❖ Extranodal
 - ❖ Skin, GI vs Mediastial
- Histologic Grade
 - ❖ Small Cell vs Large Cell
- FeLV: Response vs Survival



Lymphoma: High Grade

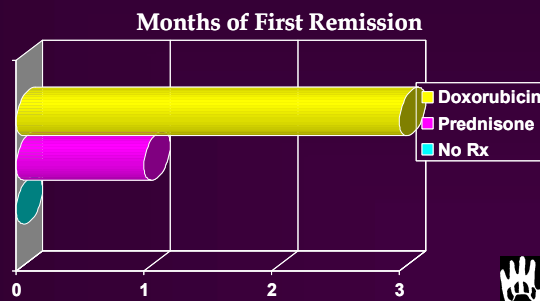


Feline Lymphoma: High Grade

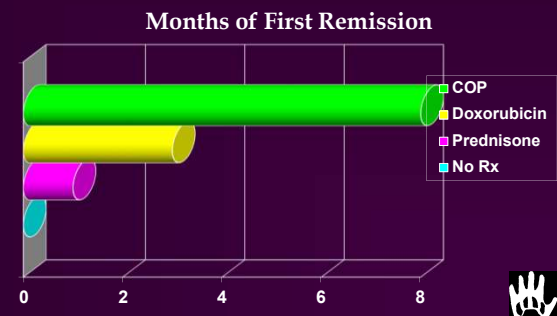
- Lymphoma: What's the Best Rx?
 - Doxorubicin: Not for Induction
 - JVIM 15;125-130, 2001
 - COP vs CHOP
 - CHOP best!
 - JVIM 15(2);125, 2001



Lymphoma: High Grade



Lymphoma: High Grade



JVIM 2002; 16:179-186

Lymphoma: High Grade

- Lymphoma: CHOP protocol
 - JVIM 2002; 16:179-186: 61 Cats
 - CR: 75.2%
 - 1 & 2 Yr Survival: 49% and 40%
 - Siamese: Best Prognosis
 - Young FeLV-: Best Prognosis

Lymphoma: High Grade

- GI Lymphoma: L-Asparaginase + CCNU: 32 Cats
 - CR/PR: 50%, Duration 302 Days
 - Median Progression Free Interval: 132 days
 - Median Overall Survival: 108 days

Vet Comp Oncol 2017;15(3) :1019-1028

CHOP Protocol

- Prednisone, L-asparaginase, Vincristine, Cyclophosphamide, Doxorubicin (J Am Vet Med Assoc 213[8]:1144-1149)

25 Week Protocol

- In Remission at 16 weeks~"Cured"
- Non Mediastinal, Young FeLV-
➤ Median Survival 1271 Days

- Aust Vet J 2001 79:808



Feline Localized High Grade GI Lymphoma: Surgery + CHOP chemotherapy- 20 cases.

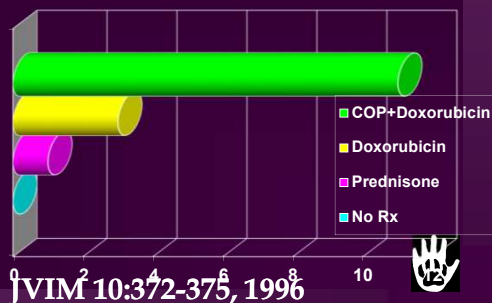
- DFI 357 days (range: 0-1585 days)

Vet Comp Oncol. 2017 Jun;15(2):328-335.



Feline Lymphoma: High Grade

Months of First Remission



Feline Lymphoma: High Grade



Chemo & Compassionate Care



Approach
What Causes Lymphoma
Diagnostics
Prognostic Factors
Best Treatments
Anatomic Site

Feline Extranodal Lymphoma: COP vs CHOP - 110 cats.

- Nasal, Renal, CNS, Laryngeal
 - COP, 72 % CR, 239 days
 - CHOP, 74 % CR, 573 days
- Nasal Lymphoma 749 days
- CNS Lymphoma 70 days

J Small Anim Pract. 2009 Nov;50(11):584-92.



Feline Lymphoma: Mediastinal



Chemo +/- Radiation

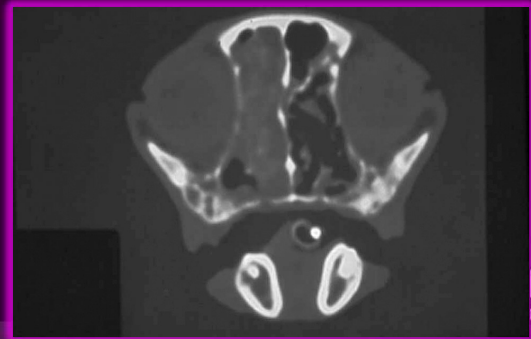


J Feline Med Surg. 2014;16(8):637-44.

- CHOP: Mediastinal Lymphoma
 - Overall response 94.7%
 - Median survival was 373 days
 - CR Cats: 980 Days



Seven Year Old CM DSH



Feline Nasal Lymphoma: RT and Chemo

- 19 Cats: 42 Gy + CHOP
 - Median Progression-Free Interval was 945 days (31 Months)
 - Median Survival Time: 955 Days (31.4 Months)

Vet Radiol Ultrasound. 2007;48(4):388-93.

Nasal Lymphoma Chemo

- COP CR: 72.7%
 - Median Survival 239 days.
- CHOP CR: 64%
 - Nasal lymphoma Median Survival 710 Days

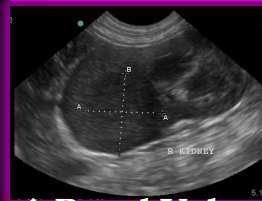


J Small Anim Pract. 2009 Nov;50(11):584-92.

Feline Lymphoma: Renal



Renal Lymphoma



- ❖ Renal Values: Not Prognostic
- ❖ Long PFS (2 years with CHOP)



Feline Lymphoma: GI



12 yr old SF DSH

- History of vomiting, weight loss, melena: 3 months.



Differentials?

Diagnostics?



12 yr old SF DSH

- History of vomiting, weight loss, Diarrhea: 3 months.
- CBC, Biochem, UA, FeLV, Chest Rads: PCV 20%, TP 3 mg/dl, Albumin 1.3 mg/dl.

Differentials? Diagnostics?



12 yr old SF DSH

- History of vomiting, weight loss, melena: 3 months.

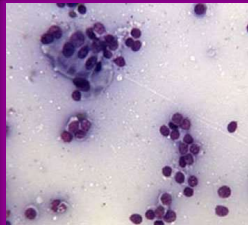
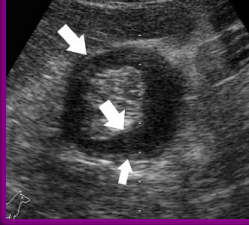


IBD
Small Cell Lymphoma
Large/Interm Cell Lymphoma
Large Granular Cell Lymphoma



12 yr old SF DSH

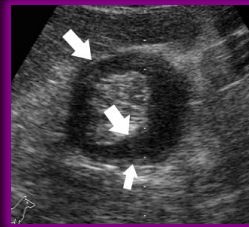
- History of vomiting, weight loss, melena: 3 months.



Good News? Bad News?

12 yr old SF DSH

- Small Cell Lymphoma vs IBD



PARR &/or
Histopathology

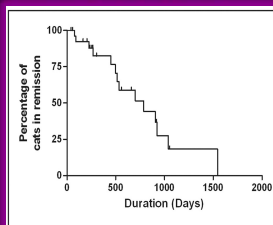
Good News? Bad News?

Small Cell Lymphoma

J Am Anim Hosp Assoc. 2010; 46(6): 413-417.

- IBD~Small Cell Lymphoma
 - Nonpalpable vs Diffuse thickening
- The overall clinical response rate: 96%
- Median clinical remission duration: 786 days

Chlorambucil + Prednisilone



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Small Cell GI Lymphoma

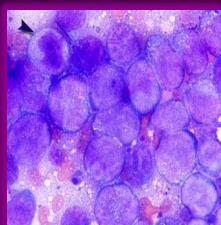
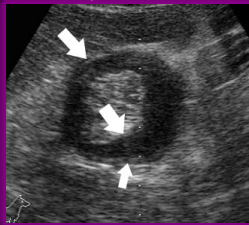
- Small Cell lymphoma: 41 cases (1995-2005).
 - Weight Loss (83%), Vomiting (73%), Anorexia (66%), and Diarrhea (58%)
 - 78% Low Serum Cobalamin Concentrations
 - 95% CR/PR: Chlorambucil/Prednisilone
 - Median Remission- CR: 897, PR: 428 days
 - Overall median survival time- 704 days.



J Am Vet Med Assoc. 2008 1;232(3):405-10.

12 yr old SF DSH

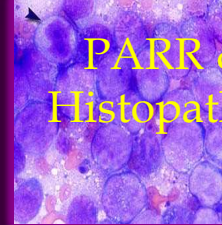
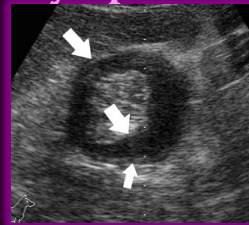
- History of vomiting, weight loss, melena: 3 months.



Good News? Bad News?

12 yr old SF DSH

- Large/Intermediate Cell Lymphoma vs Reactive



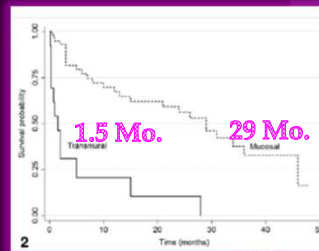
PARR &/or
Histopathology

Good News? Bad News?

GI Lymphoma

■ Biopsy Methods

- Endoscopy?
- Aspirate?
- Surgery?

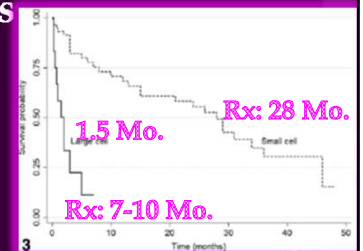


Vet Pediatr. 2012 Jul;49(4):658-68.

GI Lymphoma

■ Biopsy Methods

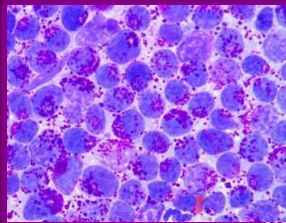
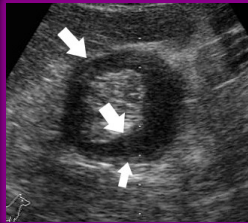
- Endoscopy?
- Aspirate?
- Surgery?



Vet Pediatr. 2012 Jul;49(4):658-68.

12 yr old SF DSH

- History of vomiting, weight loss, melena: 3 months.



Good News? Bad News?

LGL of Small Intestine

- Population of individually arranged round cells, fairly abundant cytoplasm with a focal accumulation of azurophilic granules (~ mast cell granules).
- Cytotoxic T- or NK cells origin.

MCT vs LGL: Special Stains!

12 yr old SF DSH

- Large Granular Cell Lymphoma vs Mast Cell Tumor

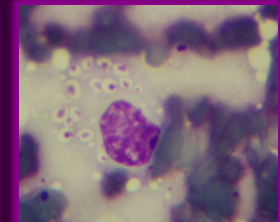


PARR &/or Histopathology

Good News? Bad News?

12 yr old SF DSH

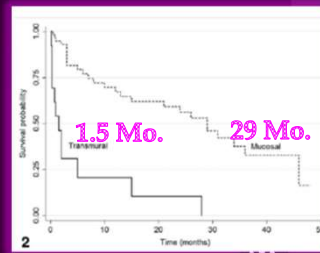
- History of vomiting, weight loss, melena: 3 months.



Good News? Bad News?

GI T Cell Lymphoma

- Aspirate*
- Aspirate, PARR**
- Endoscopic Biopsies***
- Surgery****

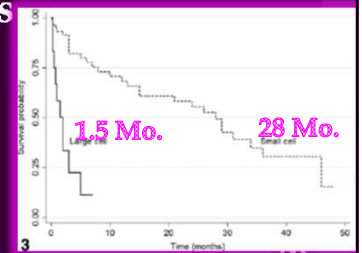


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GI T Cell Lymphoma

- Biopsy Methods
 - Endoscopy?
 - Aspirate?
 - Surgery?

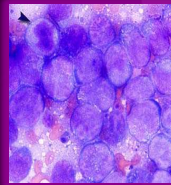


Vet Pediatr. 2012 Jul;49(4):658-68.



Best Diagnostics: Lymphoma

- Cytology
- Histopathology
- Immunohistochemistry
- PPAR
- Flow Cytometry



Vet Comp Oncol. 2014 Jun 2. doi: 10.1111/vco.12098.
J Feline Med Surg. 2014 Apr;16(4):265-74.

