**OPTIMIZATION OF THERAPEUTIC MEASURES FOR MALIGNANT NEOPLASIA** OF THE MAMMARY GLANDS IN CATS

M. Herhaulov, D. Bilyi

*Dnipro State Agrarian and Economic University*

**Reference**

1. Beam, S. L., Rassnick, K. M., Moore, A. S., & McDonough, S. P. (2003). An immunohistochemical study of cyclooxygenase-2 expression in various feline neoplasms. *Veterinary pathology*, *40*(5), 496–500. [doi: 10.1354/vp.40-5-496](https://doi.org/10.1354/vp.40-5-496)

2. Birkbeck, R., Humm, K., & Cortellini, S. (2019). A review of hyperfibrinolysis in cats and dogs. *Journal of Small Animal Practice*, *60*(11), 641-655.  [doi: 10.1111/jsap.13068](https://doi.org/10.1111/jsap.13068)

3. Bishop, B. F., & Ngo, S. N. (2018). Non-Steroidal Anti-Inflammatory Drugs as Chemopreventive Agents: Evidence from Cancer Treatment in Domestic Animals. *Annual Research & Review in Biology*, *26*(1), 1-13.  [doi: 10.9734/ARRB/2018/40829](https://doi.org/10.9734/ARRB/2018/40829)

4. Borrego, J. F., Cartagena, J. C., & Engel, J. (2009). Treatment of feline mammary tumours using chemotherapy, surgery and a COX-2 inhibitor drug (meloxicam): a retrospective study of 23 cases (2002-2007). *Veterinary and comparative oncology*, *7*(4), 213–221. doi: 10.1111/j.1476-5829.2009.00194.x

5. Carroll, G. L., & Simonson, S. M. (2005). Recent developments in nonsteroidal antiinflammatory drugs in cats. *Journal of the American Animal Hospital Association*, *41*(6), 347–354.  [doi: 10.5326/0410347](https://doi.org/10.5326/0410347)

6. Cassali, G. D., Campos, C. B., Angélica, C. B., Alessandra, E. A., Gleidice, E. L., Karine, A. D., Andrigo, B. D., Bruno, C., Fernanda, V. A. C., Renata, S., Giovana, W. D., Cristina, G. F., Enio, F., Breno, S. S., Carlos, H. C., Danielle, N. S., Emanoel, F. M., Stéfane, V.T., Fernanda, C. N., Karen, Y. R. N. (2018). Consensus for the Diagnosis, Prognosis and Treatment of Feline Mammary Tumors. *Brazilian Journal of Veterinary Research and* Animal *Science, 55*(2), 1-17.

7. Charlton, A. N., Benito, J., Simpson, W., Freire, M., & Lascelles, B. D. (2013). Evaluation of the clinical use of tepoxalin and meloxicam in cats. *Journal of feline medicine and surgery*, *15*(8), 678–690.  [doi: 10.1177/1098612X12473994](https://doi.org/10.1177/1098612X12473994)

8. De Groot, D. J. A., De Vries, E. G. E., Groen, H. J. M., & De Jong, S. (2007). Non-steroidal anti-inflammatory drugs to potentiate chemotherapy effects: from lab to clinic. *Critical reviews in oncology/hematology*, *61*(1), 52-69.  [doi: 10.1016/j.critrevonc.2006.07.001](https://doi.org/10.1016/j.critrevonc.2006.07.001)

9. de Menine, N. P. M., Araújo, G. G. A. D. S., & Wulff, M. D. L. (2021). Mammary cribriform carcinoma in a feline patient: case report. [*PUBVET*](https://www.cabidigitallibrary.org/action/doSearch?do=PUBVET)*, 15* (9), MC4924

10. Doré M. (2011). Cyclooxygenase-2 expression in animal cancers. *Veterinary pathology*, *48*(1), 254–265. [doi: 10.1177/0300985810379434](https://doi.org/10.1177/0300985810379434)

11. Estrin, M. A., Wehausen, C. E., Lessen, C. R., & Lee, J. A. (2006). Disseminated intravascular coagulation in cats. *Journal of veterinary internal medicine*, *20*(6), 1334-1339. [doi: 10.1111/j.1939-1676.2006.tb00747.x](https://doi.org/10.1111/j.1939-1676.2006.tb00747.x)

12. Ferreira T, Faustino-Rocha AI, Gaspar VM, Medeiros R, Mano JF, and Oliveira PA (2024) Contribution of non-steroidal anti-inflammatory drugs to breast cancer treatment: In vitro and in vivo studies, *Veterinary World, 17*(5): 1052–1072 doi: 10.14202/vetworld.2024.1052-1072

13. Giménez, F., Hecht, S., Craig, L. E., & Legendre, A. M. (2010). Early detection, aggressive therapy: optimizing the management of feline mammary masses. *Journal of feline medicine and surgery*, *12*(3), 214-224.  [doi: 10.1016/j.jfms.2010.01.004](https://doi.org/10.1016/j.jfms.2010.01.004)

14. Gregório, H., Magalhães, T. R., Pires, I., Prada, J., Carvalho, M. I., & Queiroga, F. L. (2021). The role of COX expression in the prognostication of overall survival of canine and feline cancer: A systematic review. *Veterinary medicine and science*, *7*(4), 1107–1119. doi: 10.1002/vms3.460

15. Goldschmidt, M. H., Peña, L., & Zappulli, V. (2016). Tumors of the mammary gland. *Tumors in domestic animals*, 723-765.  [doi: 10.1002/9781119181200.ch17](https://doi.org/10.1002/9781119181200.ch17)

16. Gurpinar, E., Grizzle, W. E., & Piazza, G. A. (2013). COX-independent mechanisms of cancer chemoprevention by anti-inflammatory drugs. *Frontiers in oncology*, *3*, 181.  [doi: 10.3389/fonc.2013.00181](https://doi.org/10.3389/fonc.2013.00181)

17. Hughes, K., & Dobson, J. M. (2012). Prognostic histopathological and molecular markers in feline mammary neoplasia. *Veterinary journal (London, England : 1997)*, *194*(1), 19–26.  [doi: 10.1016/j.tvjl.2012.05.008](https://doi.org/10.1016/j.tvjl.2012.05.008)

18. Kamata, M., King, J. N., Seewald, W., Sakakibara, N., Yamashita, K., & Nishimura, R. (2012). Comparison of injectable robenacoxib versus meloxicam for peri-operative use in cats: results of a randomised clinical trial. *Veterinary journal (London, England : 1997)*, *193*(1), 114–118. doi: 10.1016/j.tvjl.2011.11.026

19. Keepman, S. J., & Pellin, M. A. (2022). Low dose meloxicam is safe and tolerable when combined with toceranib phosphate in cancer-bearing cats. *Journal of feline medicine and surgery*, *24*(12), 1187–1194.  [doi: 10.1177/1098612X211067023](https://doi.org/10.1177/1098612X211067023)

20. Lascelles, B. D. X., Court, M. H., Hardie, E. M., & Robertson, S. A. (2007). Nonsteroidal anti-inflammatory drugs in cats: a review. *Veterinary anaesthesia and analgesia*, *34*(4), 228-250.  [doi: 10.1111/j.1467-2995.2006.00322.x](https://doi.org/10.1111/j.1467-2995.2006.00322.x)

21. Mathews, K. A. (2002). Non‐steroidal anti‐inflammatory analgesics: a review of current practice. *Journal of Veterinary Emergency and Critical Care*, *12*(2), 89-97.  [doi: 10.1046/j.1435-6935.2002.00007.x](https://doi.org/10.1046/j.1435-6935.2002.00007.x)

22. Millanta, F., Citi, S., Della Santa, D., Porciani, M., & Poli, A. (2006). COX-2 expression in canine and feline invasive mammary carcinomas: correlation with clinicopathological features and prognostic molecular markers. *Breast cancer research and treatment*, *98*(1), 115–120. doi: 10.1007/s10549-005-9138-z

23. Millanta, F., Asproni, P., Canale, A., Citi, S., & Poli, A. (2016). COX‐2, mPGES‐1 and EP2 receptor immunohistochemical expression in canine and feline malignant mammary tumours. *Veterinary and Comparative Oncology*, *14*(3), 270-280.  [doi: 10.1111/vco.12096](https://doi.org/10.1111/vco.12096)

24. Morris, J. (2013). Mammary tumours in the cat: size matters, so early intervention saves lives. *Journal of feline medicine and surgery*, *15*(5), 391-400.  [doi: 10.1177/1098612X13483237](https://doi.org/10.1177/1098612X13483237)

25. Papich, M. G., & Messenger, K. (2015). Non‐steroidal anti‐inflammatory drugs. *Veterinary anesthesia and analgesia: The fifth edition of Lumb and Jones*, 227-243. [doi: 10.1002/9781119421375.ch12](https://doi.org/10.1002/9781119421375.ch12)

26. Peterson, J. L., Couto, C. G., & Wellman, M. L. (1995). Hemostatic disorders in cats: a retrospective study and review of the literature. *Journal of Veterinary Internal Medicine*, *9*(5), 298-303. [doi: 10.1111/j.1939-1676.1995.tb01088.x](https://doi.org/10.1111/j.1939-1676.1995.tb01088.x)

27. Petrucci, G. N., Henriques, J., Lobo, L., Vilhena, H., Figueira, A. C., Canadas-Sousa, A., Dias-Pereira, P., Prada, J., Pires, I., & Queiroga, F. L. (2021). Adjuvant doxorubicin vs metronomic cyclophosphamide and meloxicam vs surgery alone for cats with mammary carcinomas: A retrospective study of 137 cases. *Veterinary and comparative oncology*, *19*(4), 714–723. doi: 10.1111/vco.12660

28. Ralph, A. G., & Brainard, B. M. (2012). Update on disseminated intravascular coagulation: when to consider it, when to expect it, when to treat it. *Topics in companion animal medicine*, *27*(2), 65–72. doi: 10.1053/j.tcam.2012.06.004

29. Rueda, J. R., Porto, C. D., Franco, R. P., da Costa, I. B., Bueno, L. M. C., Girio, R. J. S., ... & Repetti, C. S. F. (2024). Mammary neoplasms in female dogs: Clinical, diagnostic and therapeutic aspects. *Veterinární medicína*, *69*(4), 99. doi: 10.17221/4/2024-VETMED

30. Owen LN. TNM Classification of tumors in domestic animals. Geneva: World Health Organization. 1980.

31. Stancu, A., Cristea, A., & Lescai, D. (2020). Mammary tumors in dogs and cats. [*Romanian Journal of Veterinary Medicine & Pharmacology*](https://www.cabidigitallibrary.org/action/doSearch?do=Romanian+Journal+of+Veterinary+Medicine+%26+Pharmacology), 2 (22), 78-87

32. Szweda, M., Rychlik, A., Babińska, I., & Pomianowski, A. (2019). Significance of cyclooxygenase-2 in oncogenesis. *Journal of Veterinary Research*, *63*(2), 215-224.

33. Tsuji, S., Tsujii, M., Kawano, S., & Hori, M. (2001). Cyclooxygenase-2 upregulation as a perigenetic change in carcinogenesis. *Journal of experimental & clinical cancer research: CR*, *20*(1), 117–129.