



## Spontaneous Mammary Carcinomas in Female Dogs: Association between Immunohistochemical Degrees of Neoplasia Aggressiveness and Residual Pyrethroids

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### ABSTRACT

Of the tumors diagnosed in the female dogs have the highest mammary neoplasias incidence. These neoplasias can be influenced by environmental contaminants. Despite evidence of pyrethroid toxicity, carcinogenic potential has not yet been sufficiently elucidated, there is a need to investigate their involvement in mammary tumor. In previous studies, pyrethroid residues were detected in female dogs with mammary neoplasia, however was not investigate the influence of this insecticide in the genesis and aggressiveness of mammary cancer. This study aimed to investigate possible relations between pyrethroid residues and aggressiveness of mammary carcinoma in female dogs. Fifty selected female dogs were divided into five groups of 10 animals each: the Control group, female dogs without mammary neoplasia; the groups Luminal A, Luminal B, HER-2 Superexpression and Basal were constituted by female dogs that presented inguinal mammary carcinoma classified immunohistochemically. The aggressiveness of carcinomas was evaluated by immunohistochemistry (HER-2, p63, estrogen receptor). Residual concentrations of the pyrethroids from the mammary gland and fat tissue adjacent to it were determined by HPLC. Data were analyzed by Chi-Square test. Of the all animals, six presented residues of pyrethroids in mammary samples and 10 presented it in fat tissue samples. There was no statistical evidence that pyrethroids are involved in mammary carcinoma aggressiveness in female dogs.

### KEYWORDS

Mammary Tumors; Pyrethroids; Carcinogenesis; Neoplasia Aggressiveness

### Cite this paper

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