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## LTA4H AND FXR1 GENE AND PROTEIN EXPRESSION IN CANINE ORAL MELANOMA

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**Introduction:** Canine oral melanoma is a common neoplasm that is usually considered malignant, although the correlation between histology and prognosis is still controversial. Therefore research of new biological markers is ongoing. In this study, LTA4H (an enzyme of the arachidonic acid cascade) and FXR1 (a RNA binding protein) are investigated. Both of them have been previously investigated for their possible role in ocular melanoma metastatization processes, and are studied here in canine oral melanoma.

**Materials and Methods:** 29 samples of formalin-fixed/paraffin embedded canine oral melanoma were analyzed. Routine HE sections were evaluated on light microscopy and received a histological description, including mitotic activity index (MI). Immunohistochemical staining for LTA4H, FXR1 and Ki-67 was performed, LTA4H and FXR1 were semi-quantitatively scored, Ki67 was quantitatively scored. The expression of LTA4H and FXR1 genes was also quantified by RT-PCR.

**Results:** Most of the cases were epithelioid, poorly pigmented melanomas. MI ranged 0.1-9.2 (median 1.1). Ki-67 index ranged 7,9-44,4% (median 19%). Immunolabelling was positive in 29/29 LTA4H and 28/29 FXR1, with variable intensity and percentage of positivity. RT-PCR relative expression values ranged 0,49-9,11 for LTA4H and 0,15-10,33 for FXR1 (in 4 cases was under the detection limit)

**Conclusions:** LTA4H and FXR1 were detected in all tested melanomas. Marked differences among cases at RT-PCR emerged, although target genes expression levels were not consistent with histological parameters or Ki-67 index. Conversely, immunohistochemical positivity was elevated in most cases with negligible expression differences. Further work is ongoing to clarify the prognostic significance of different levels of expression.

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