ABSTRACTS

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Canine mammary tumors: is plasma relaxin a prognostic marker?

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OBJECTIVES AND METHODS: The mammalian peptide hormone relaxin (RLX) is well known for its matrix-modifying capacity via upregulation of matrix metalloproteinases (MMP) and angiogenesis. Furthermore, highest mRNA activity of RLX was found in malignant canine mammary tumours (CMT). In a human patient study, serum RLX levels were significantly elevated in patients with metastatic breast cancer which correlated with short survival. Due to the elevated RLX expression levels in breast carcinomas, the aim of the present study was to examine the peripheral RLX content related to the clinics in dogs with CMT and to evaluate if RLX can be used as prognostic marker for CMT. In this prospective study, 93 bitches were included, presented for surgical therapy of a mammary gland tumour. Preoperatively and up to 24 months after surgery the concentration of RLX in blood plasma from the bitches and a healthy, tumour free control group (n = 28) was determined. Six months after surgery the thorax was radiographically checked for pulmonal metastases. The stage of the disease was characterised by clinical parameters according to the TNM-Score of the WHO, stage four bitches were excluded.

RESULTS: From 93 bitches examined 81.7% of these were intact and 92.5% were classified as malignant mammary tumours by histopathology. No significant differences between the plasma RLX of CMT-patients and the control group or the plasma RLX of intact and spayed patients were found. Furthermore, no significant correlation could be obtained between the plasma RLX level and malignant nature of the tumour, tumour size, metastases, survival rate and recidivation in the bitch.

CONCLUSION: In contrast to human breast cancer, plasma RLX-levels seems not to be a reliable marker for CMT. Therefore, the focus should be set on the local expression of the RLX-system, which could play a significant role in CMT pathogenesis as an inducer of connective tissue remodelling.