

## Abstracts der Posterbeiträge zur 36. VÖK-Jahrestagung



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## Dogs with spontaneous histiocytic sarcomas show prolonged survival with therapy, but rarely use alternative lengthening of telomeres as maintenance mechanism

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**Keywords:** c-circle assay, telomerase-independent, disseminated.

**Aim of the study:** Canine histiocytic sarcomas (HS) are malignant tumors that generally have a poor prognosis. Alternative lengthening of telomeres (ALT) is a telomerase-independent telomere-maintenance mechanism (TMM) that is crucial for cancer development by overcoming replicative senescence. Previously, we identified ALT in 9.4 % of sarcomas, including 3/6 HS. Aim of this study was to characterize clinical data in a patient cohort with HS in relation to the presence of ALT.

**Material and Methods:** Tumor samples of 18 dogs with HS were evaluated. Clinical data included patient characteristics, tumor location, treatment and outcome. DNA was extracted from FFPE tissue, quantified and used to identify ALT activity by C-circle assay. Known ALT-positive canine and human tumor samples served as controls.

**Results:** Bernese Mountain dogs (BMDs) were over-represented with 33 % of all patients and frequently

suffered from disseminated HS in contrast to the other breeds where cutaneous HS predominated. 8/18 patients received a tumor-specific therapy and had significantly longer median overall survival times (144 days) compared to non-treated dogs (7 days). Of all 18 samples evaluated for ALT one non-BMD-case had a borderline ALT-positive signal (2.2-fold above background) and was classified as weak positive. Other samples were clearly ALT-negative, and only the positive controls showed C-circle signals in the expected range.

**Discussion:** Clinical results in this study were consistent with previously published data. However, in contrast to our previous study, HS use only weak or no ALT activity. Because of the high prevalence of HS in certain breeds, knowledge of used TMM is of interest for the development of targeted therapies.

### References:

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