

Single high-dose radiation therapy and liquid fiducial markers can be used in dogs with incompletely resected soft tissue sarcomas

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OBJECTIVE

To evaluate the outcome and effects of single high-dose radiation therapy with the aid of liquid fiducial markers in dogs following resection of soft tissue sarcomas (STSs).

ANIMALS

36 client-owned dogs.

METHODS

Dogs with a histologic diagnosis of a grade II or III STS that underwent liquid fiducial guided single fraction, 20-Gy stereotactic radiation therapy following surgical excision of an STS between May 2017 and March 2019 were prospectively enrolled in this study. Data collected from the medical records included patient signalment, tumor-related information, treatment details, and outcome. Kaplan-Meier survival analysis was performed for overall survival time (OST) and disease-free interval (DFI). The median OST and DFI were not reached, so restricted mean OST and DFI were also calculated.

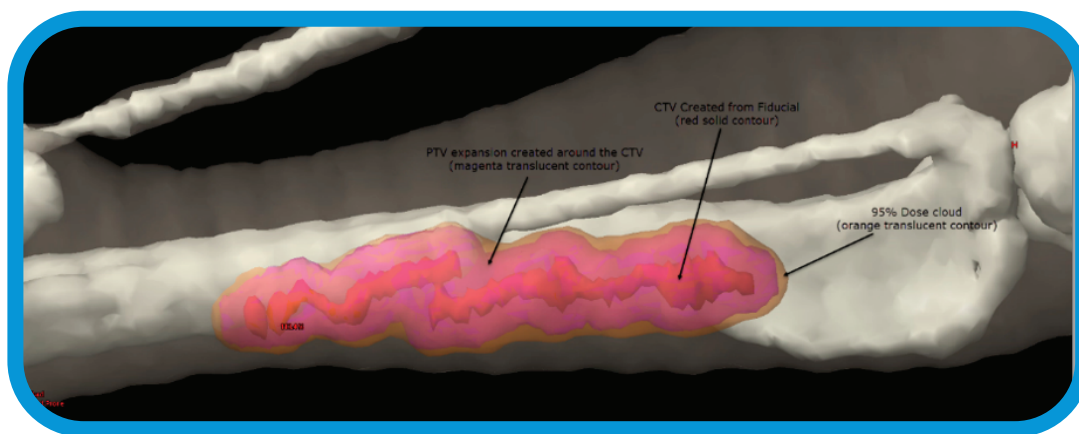
RESULTS

36 dogs were included in the study. All dogs underwent radiation therapy a mean of 36.1 days (range, 20 to 59 days) after surgery. Acute and delayed radiation toxicity effects occurred in 80.5% and 36.1% of dogs, respectively, all of which affected the skin. Tumor recurrence was noted in 24.3% of dogs with a median time to recurrence of 272 days (range, 14 to 843 days). The restricted mean OST was 1,556 days (range, 1,383 to 1,728 days) and restricted mean DFI was 1,330 days (range, 1,101 to 1,559 days).

CLINICAL RELEVANCE

The results of this study showed that administering a single 20-Gy fraction of radiation in combination with a liquid fiducial marker to treat marginally or incompletely resected STS in the absence of gross disease resulted in similar OST and DFI compared to other previously reported radiation protocols.

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