High Intensity Focused Ultrasound ablation as single modality treatment for canine subcutaneous tumors

Purpose

To establish the feasibility, safety, and tolerability of High Intensity Focused Ultrasound (HIFU) in the treatment of canine soft tissue sarcomas (STS), and to characterize the tumor response and time to progression after HIFU treatment

Background

Soft Tissue Sarcomas are a common form of cancer in dogs that can invade tissues vital to normal function. As in humans, complete surgical removal remains the treatment of choice, with aggressive surgery recommended to ensure the best outcome. Surgical removal can sometimes be impossible without leg amputation or radiation therapy. In some cases, a tumor may be surgically resectable, but it could still recur at the surgical site or spread in a distant site like lymph node or lung. Radiation therapy is often recommended when surgery cannot completely remove the tumor, to help reduce the risk of local recurrence. Unfortunately, these therapeutic approaches are frequently unsuccessful, and can be associated with significant discomfort, disfigurement, and financial burden to the owner.

Thus, there is a need for novel, less invasive, and more effective therapeutic options. High intensity focused ultrasound (HIFU) is a non-invasive, outpatient ablative technique that has the potential to answer these unmet needs. Based on previous studies by our team, we hypothesize that a single HIFU treatment in dogs diagnosed with STS will result in complete tumor ablation, with minimal side effects.

Eligibility

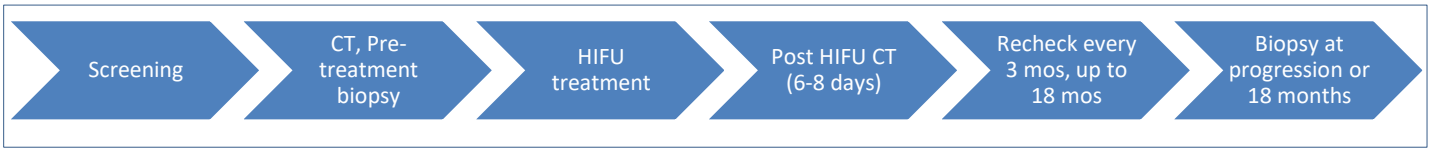
- Dogs diagnosed with, or with strong suspicion of subcutaneous Soft Tissue Sarcoma, will be recruited
- Tumor size less that 6cm in longest dimension, and amendable to treatment with our HIFU unit. A screening visit is required to define eligibility.

Exclusion Criteria

- Concurrent disease, including metastasis, which would reduce life expectancy to less than 4 weeks
- Non-soft tissue sarcoma diagnosis (e.g. bone sarcoma, histiocytic sarcoma)
- Recent (within 3 weeks) or concurrent anti-cancer therapy.

Study Design

This study takes place at the Animal Cancer Care and Research Center in Roanoke, VA.



Dogs diagnosed with, or with strong suspicion of subcutaneous STS, will be recruited. All dogs will be screened during their first visit, and if all criteria are met and owners signs the informed consent, they will then enrolled in the study. After enrollment, dogs will be scheduled for a CT scan and pre-treatment tumor biopsy. They will then be scheduled for the HIFU treatment 10-14 days post CT. One week post treatment, we will repeat a CT of the treated tumor, to calculate the ablated volume, as well as to estimate whether complete tumor ablation was achieved. Scheduled recheck visit will take place every 3 months, until local tumor recurrence, or 18 months from HIFU treatment. Tumor recurrence, or reaching 18 months without recurrence, will be the endpoint for this study. At that time, biopsy will be performed, to verify whether there is recurrence.

Compensation

Once informed consent is obtained, the study will cover the expenses for the CT, tumor biopsy and histopathology, the HIFU treatment, the cost of 1-week post treatment CT under sedation, and the cost of the scheduled recheck visits, including bloodwork and chest radiographs.

A financial incentive of $1,000 will be available to you as a credit in your account with ACCRC, after the completion of the study protocol. This will be available when either 18 months passed from the HIFU treatment, or the tumor grew back at the treated site. This incentive will only be available if you adhere to all the required visits.

You are responsible for any other clinical fees associated with medical complications of the HIFU therapy or other medical problems.

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If your query is urgent, please call the Animal Cancer Care and Research Center on (540) 526-2300.