

B-CELL LYMPHOMA IN DOGS: HALF-BODY RADIATION THERAPY WITH CHEMOTHERAPY TREATMENT PROTOCOL



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Article Key Points

- Canine B-cell lymphoma is being successfully treated with a combined chemotherapy and radiation therapy protocol.
- Canine lymphoma patients treated with this combined chemotherapy and radiation protocol have significantly increased survival times compared to chemotherapy alone.
- This combination therapy is not without risk: in approximately 5-10% of patients, there is some risk of toxicity that may be life threatening.
- This combination chemotherapy and radiation protocol *needs to be offered at the time of diagnosis to be effective*. Waiting until a patient has failed chemotherapy alone is too late, and any opportunity we may have had to increase survival time is lost.

PET PATIENTS TREATED IN THESE CONVENIENT LOCATIONS

Chicago, IL	Orange County, CA
Clifton, NJ	Phoenix, AZ
Dallas, TX	Pittsburgh, PA
Jacksonville, FL	San Antonio, TX
Los Angeles, CA	San Jose, CA

Recent advancements in the treatment of canine B-cell lymphoma have significantly improved outcomes for affected dogs. The integration of low-dose rate half-body irradiation (LDRHBI) with chemotherapy has emerged as a promising protocol, offering increased survival times and better remission rates compared to chemotherapy alone. Thanks to these cutting-edge therapies, canine B-cell lymphoma, which accounts for over 80% of lymphoma cases in dogs, is now one of the most treatable forms of this canine cancer.

TRADITIONAL TREATMENTS FOR B-CELL LYMPHOMA IN DOGS

For nearly 40 years, chemotherapy has been the cornerstone of treatment for B-cell lymphoma in dogs. Most standard chemotherapy protocols involve a combination of drugs administered in a very precise sequence to induce and maintain remission. Despite their effectiveness, current chemotherapy protocols have their limitations, which has prompted the exploration of additional treatments to improve results.

LOW-DOSE RATE RADIATION THERAPY & CANINE B-CELL LYMPHOMA

Some investigators have evaluated the impact of low-dose rate half body irradiation (LDRHBI) when used with chemotherapy. This combination has shown *promising results when radiation therapy is employed early in the treatment process*, during the induction phase.

The aim of this part of the protocol is to induce remission using a precise sequence of chemotherapy drugs. Integrating LDRHBI during this phase is believed to be essential to specifically target malignant B-cells that were not killed by chemotherapy, thus optimizing the chances of prolonged remission and survival times. This treatment protocol involves the administration of a specific sequence of chemotherapeutic drugs, followed by LDRHBI, after which chemotherapy is resumed for a short period. The total planned duration of therapy with this protocol is approximately 6 months.

TIMING AND PROTOCOL

The efficacy of LDRHBI appears to hinge on its timely incorporation after a chemotherapy-induced clinical remission has been achieved. Based on studies that have assessed the impact of other forms of radiation therapy when used in dogs with relapsed lymphoma, it is anticipated that the benefits of LDRHBI will be significantly diminished if it is administered after chemotherapy has already failed. Veterinarians should engage in discussions with pet owners at diagnosis or as early as otherwise possible with the option to integrate LDRHBI into the induction phase of the treatment protocol. Offering this new option along with a discussion of the inherent benefits and risks can enhance decision-making for the pet parent and optimize treatment outcomes.

STUDY OUTCOMES AND ASSOCIATED RISKS

Two studies show that combining LDRHBI with chemotherapy for canine B-cell lymphoma can significantly prolong remission durations

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and survival times. A study by Lurie et al (2009) as well as a more recent study by Best et al (2023) Journal of Veterinary Internal Medicine, indicates significantly improved survival times, with many dogs living three and four years post-treatment, often succumbing to conditions other than lymphoma – like old age. This is a significant improvement over the established survival time of 1 year for patients treated with chemotherapy alone. PetCure Oncology has seen similar results in its own clinical trials that are being readied for publication.

Despite these encouraging results, it is important to manage expectations with pet parents. While this combination of chemotherapy and radiation may be curative in many instances, veterinary professionals are cautioned to avoid the term “cure” with pet parents at the risk of over-promising results. Instead, the focus for veterinary oncologists is on achieving extended remission periods, allowing dogs to enjoy a quality life free from lymphoma symptoms – for the long term. Instead, the focus for veterinary oncologists is on achieving extended remission periods, allowing dogs to enjoy a quality life free from lymphoma symptoms – for the long term.

RISKS AND SIDE EFFECTS OF RADIATION (LDRHBI) AND CHEMOTHERAPY

As with any intensive treatment, the combined protocol of chemotherapy and radiation (LDRHBI) carries inherent risks. From our own studies and those previously published, there appears to be a 5-10% mortality rate associated with the treatment itself, primarily due to infections. However, for many, this risk is outweighed by the potential for long-term remission and a vastly improved quality of life.

CONCLUSION

The integration of radiation therapy (LDRHBI) with chemotherapy represents a significant advancement in the treatment of B-cell lymphoma in dogs. Early use during the induction phase of treatment is believed to significantly improve remission rates and overall survival times, offering hope for a longer life for affected pets. Thus, it is crucial for veterinary professionals to inform pet owners of this treatment option for B-cell lymphoma at the time of diagnosis. By staying informed of the latest treatment protocols, veterinarians can better guide pet owners through these evolving treatment options, balancing the potential rewards with the risks associated with the treatment option chosen.

DO YOU HAVE A CANINE PATIENT SUFFERING FROM B-CELL LYMPHOMA?

Veterinarians: Get In Touch Today



Consultations with our expert veterinary staff are complimentary. Get in touch by phone or email now.



Call 833-VET-HERO (833-838-4376) to get started.



PetCure.PetAdvocate@ThrivePet.com

TREATMENT CENTERS IN CONVENIENT LOCATIONS ACROSS THE U.S.

Treatment for Canine B-Cell Lymphoma with Half-Body Radiation Therapy + Chemotherapy is Available at Select Locations Nationwide.

