The use of pleural port and intra-cavitary chemotherapy in treatment of thoracic mesothelioma in 13 dogs

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OBJECTIVES

Mesothelioma is a neoplasm affecting the mesothelial lining causing marked cavitory effusion. Sadly, many dogs are euthanized at the time of diagnosis due to the lack of satisfactory treatment options. The purpose of this study was to evaluate safety and efficacy of treatment with pleural port placement followed by intra-cavitary chemotherapy in dogs with pleural or pericardial mesothelioma.

METHODS

Medical records of dogs with a histologically confirmed diagnosis of pleural or pericardial mesothelioma treated

with intra-cavitary chemotherapy (n = 13) were retrospectively reviewed. Data collected included response to treatment protocols, therapy, pleural port associated complications, acute and chronic drug toxicity and overall survival time.

RESULTS

Thirteen dogs met the inclusion criteria. The most commonly used first-line protocol was weekly intra-cavitary 5-Fluorouracil (150 mg/m²), while the use of rescue protocols was variable including intra-cavitary and/or intra-venous carboplatin, mitoxantrone, and bleomycin. Grade 1 gastrointestinal toxicity was noted in three dogs after intra-cavitary 5-Fluorouracil administration, and one dog had a grade 1 neutropenia after intra-cavitary carboplatin administration. Pleural port associated complications were reported in n = 5 dogs and included obstruction (n = 3), infection (n = 1) and pneumothorax (n = 1). The median survival time (MST) for all dogs was 200 days (RI; 23–938 days).

STATEMENT (CONCLUSIONS)

Pleural port-placement followed by intra-cavitary chemotherapy treatment was well tolerated and is a valid palliative treatment option in dogs diagnosed with pleural or pericardial mesothelioma. However, the efficacy of chemotherapy treatment in these patients remains uncertain and further research is warranted.

Palliative radiotherapy for oral non-lingual and non-tonsillar SCC in dogs: A retrospective study of 21 cases from two referral centres in the UK

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OBJECTIVES

Squamous cell carcinoma (SCC) is the second most frequent tumour of the oral cavity in dogs. Surgery with

or without the addition of radiotherapy (RT) is the treatment of choice with long survival times achievable. Finely fractionated radiotherapy alone is also effective in the long-term control of the disease, however the benefits and side effects of palliative hypofractionated radiotherapy for oral non-tonsillar and non-lingual SCC has not been extensively reported.

METHODS

In this study 21 cases from two referral centres receiving hypofractionated radiotherapy for gross or incompletely resected SCC were retrospectively evaluated.

RESULTS

All dogs received a four-weekly course of palliative radiotherapy, eight dogs in the adjuvant setting and 13 dogs had advanced gross disease.

Overall response rate was 77% for the dogs receiving treatment for macroscopic disease. Three cases developed severe late side effects (oro-nasal fistula and bone necrosis) that resulted in euthanasia in one case. Time to progression (TTP) and median survival time (MST) for dogs with gross disease were 121 days (60–1095 days) and 182 days (60–1095 days) respectively.

STATEMENT (CONCLUSIONS)

Hypofractionated radiotherapy for SCC in the presence of advanced gross disease is not very effective in achieving long-term local control of the disease, however it

improved quality of life in affected patients in the medium term with minimum side effects.

Hypofractionated radiation is likely effective in the adjuvant treatment of incompletely resected SCC (MST 547 days). Larger studies are needed to confirm our findings.

Prognostic factors for survival in dogs with cerebral glioma receiving primary radiotherapy: a pilot study

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OBJECTIVES

To identify prognostic factors for survival in dogs with cerebral glioma receiving radiotherapy.

METHODS

Medical records of client owned dogs, that received radiotherapy as sole treatment for cerebral glioma, were retrospectively reviewed. Presumptive diagnosis was based on computed tomographic and magnetic resonance images. Cox Proportion Hazard model was performed to

assess factors associated with survival. Factors included signalment data (age, gender, weight, time from diagnosis to radiation therapy start) radiological data (tumour size, midline crossing, tumour location, contrast pattern enhancement) and radiotherapy protocol.

RESULTS

17 dogs were included. Median age was 9 years and the median weight was 27.2kg. Median survival time was 330 days (range 81–1590) and the median follow up time was 300 days. Median tumour size (maximum diameter) was 15mm (range 7.7–26) and median time from diagnosis to radiation therapy start was 15 days. 11 patients received a total dose of radiation greater than 40Gy and 6 patients received a total dose lower than 40Gy. 2/17 dogs were still alive at the end of the study and 11/17 dogs were euthanized due to progressive disease. None of the variables examined were associated with survival but crossing the midline and radiation therapy protocol were approaching statistical significance ($p = 0.057$ and $p = 0.08$ respectively).

STATEMENT (CONCLUSIONS)

The results show good survival for dogs with presumed glioma receiving radiotherapy. Although a significant prognostic factor was not identified this may be due to the small cohort and further numbers are required to assess the importance of radiation protocol and tumours that cross the midline.

Objective and subjective evaluation of nausea in dogs prior to repeated chemotherapy

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OBJECTIVES

Investigate if the conditioned response of anticipatory nausea due to repeated chemotherapy could be identified

and quantified with a behavioural assessment tool and by measuring a biomarker, plasma arginine vasopressin (AVP), in dogs.

METHODS

Dogs due to receive repeated doses of doxorubicin, carboplatin or vinblastine at an oncology referral centre were recruited. Data was collected from 14 dogs over 50 separate visits.

- a. Nausea behaviours were assessed prior to repeated chemotherapy using a numerical rating scale descriptor tool (Kenward et al., 2014).
- b. AVP was measured using residual peripheral blood following a complete blood count undertaken for clinical purposes
- c. Patients were monitored for chemotherapy-induced adverse events (CIAE) and scored using the Veterinary Co-operative Oncology Group-Common Terminology Criteria for Adverse Events.