Efficacy and toxicity of carboplatin in the treatment of macroscopic mesenchymal neoplasia in dogs

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Introduction

- Soft tissue sarcomas (STSs) and hemangiosarcomas (HSA) are common mesenchymal tumors diagnosed in dogs.
- Both are locally invasive but metastatic behavior varies based on location and grade.

Figure 1. CT scan (transverse view) of a canine patient diagnosed with an invasive, recurrent soft tissue sarcoma (black arrows). The tumor recurred after two surgeries, definitive radiation therapy and failed doxorubicin chemotherapy. The patient received carboplatin and was included in this study.

- When local control with surgery and/or radiation therapy is not an option, doxorubicin-based chemotherapy protocols may be considered as palliative treatment.

- Carboplatin is a chemotherapy effective against canine osteosarcoma, with a favorable toxicity profile compared to doxorubicin. It is not an ABCB1-1devela substrate and is not cardiotoxic.
- The use of carboplatin in the treatment of canine non osseous sarcomas has been limited, and data is direly needed to investigate its efficacy against this heterogenous family of tumors.

Aims

- To determine the efficacy of carboplatin in the treatment of macroscopic non osseous sarcoma in dogs.
- To describe the toxicity profile and adverse events (AEs) associated with carboplatin in this patient population using VCOG adverse events consensus.

Material and methods

Retrospective study

Table 1. Summary of agents used as palliative chemotherapy for STS or HSA. Dose-intensive chemotherapy or metronomic chemotherapy protocols as a single treatment modality have not proven to be effective in local tumor control with variable response rates and often short control times.

Table 2. Demographics for the 29 patients included.

Table 3. Carboplatin treatments and response characteristics.

Table 4. Adverse events (AEs) and characteristics graded using VCOG criteria.

Results

- Data assessed:
  - Tumor response using RECIST criteria when possible
  - Toxicity using VCOG criteria

Response rate (RR) and Response duration complete (CR) or partial response (PR) as time of initiation of Carboplatin to time of progression of disease (PD)

Progression free survival as time from initial carboplatin to date of identification of PD or death without evidence of PD, impact of stage and pretreatment with chemotherapy.

Discussion

- Response rate (RR) was low (13.8%) and of short duration in this heavily pretreated population.
- HSA may be more sensitive to carboplatin (33% RR), but this is based on a low number of patients.
- The toxicity profile seen in our patient population was acceptable.
- Patients with distant metastasis may have better response, but this may be due to the type of sarcoma (HSA) associated with metastatic status.
- Limitations of this study inherent to retrospective nature.

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References