A European Multicentre Pilot Study to Evaluate the Combination of Toceranib, Lomustine and Prednisolone for Non-Resectable or Recurrent Canine Mast Cell Tumors

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INTRODUCTION

The goal of this prospective study is to assess the median survival time (MST) of a population of dogs with mast cell tumors (MCT), treated with a lomustine-toceranib-prednisolone protocol.

METHODS

Dogs with measurable non-resectable, metastatic or recurrent grade II/III MCT, with a minimal estimated life expectancy of 8 weeks, were incorporated. Routine MCT staging was performed. Dogs were treated with lomustine at 70mg/m2 (60–80) every three weeks and toceranib at 2.7mg/kg EOD. Prednisolone (1mg/kg EOD) was administered the day without toceranib. Response to treatment and treatment related toxicity were monitored according to RECIST 1.1 and VCOG-CTCAE v1.1, respectively. Tumor samples were analyzed for c-kit status, Ki67, VEGFR expression levels utilizing immunohistochemistry.

RESULTS

So far 12 dogs are included in the study and complete data are available for 8 dogs. Four dogs had multiple tumors, 4 dogs a single MCT. Response included 3 CR, 2 PR, 2 SD and 1 PD. Two patients (1 CR, 1 PR) are still alive (MST 432 days), 4 patients died due to different reasons, including PD and treatment related side effects (MST 147.8 days). Two patients were removed due to drug intolerability. Most common severe adverse events were neutropenia (n=9), vomiting (n=4), pyrexia (n=2), pancreatitis (n=1), and increased liver enzymes (n=1). Treatment delays and dose reductions were necessary in all 8 patients.

CONCLUSION

Treatment responses were encouraging. However, treatment related toxicities that resulted in multiple dose delays and reductions were frequent, indicating summation of common gastrointestinal and bone marrow associated side effects. Protocol modifications could improve tolerability.

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