Time-assessed infra-red thermal characterization of canine cutaneous mast cell tumors (cMCT) treated intratumorally with the investigational anticancer agent Tigilanol Tiglate (EBC-46)

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INTRODUCTION

Tigilanol Tiglate Injection is a product derived from the seed of native Australian blushwood tree (Fontainea picrosperma). It has been delivered intratumorally to over 250 cMCT. Thermographic imaging (TI) was previously described in evaluating temperature differences between tumor and healthy skin of 78 cMCT, providing key information about tumor vascular changes. This study is investigating time-assessed TI of cMCT treated with tigilanol tiglate (EBC-46).

MATERIALS AND METHODS

TI of a range of clinically presented cMCT were collected at T0 (pre-treatment); T1 (during Tigilanol Tiglate Injection); 2h, 4h and at 1, 7, 14, 28 days post injection. Tumors were also CT scanned prior to treatment and at Day 28.

RESULTS

Evidence is presented showing initial approximate 4ºC decrease in Tumoral Temperature (TT) followed by measurable TT increase during subsequent hours (1-2ºC). In subsequent days, TT again decreases and remains lower (around 5ºC) than prior to treatment. By Day 28, the resolving injection site resembles the temperature in surrounding healthy tissue. Tumor measurements were also collected and RECIST results also presented. The drug was well tolerated with no adverse effects of treatment, no tumor recurrence.

CONCLUSION

Tigilanol tiglate treatment results in vascular disruption and an acute highly-localized inflammatory response at injection site. During subsequent days, TT remains lower (-5ºC) than prior to treatment, explained by drug-induced tumoral necrosis. Injection site temperatures return similar to those of surrounding skin at Day 28, with resultant tumor removal and rapid wound resolution. Tigilanol Tiglate Injection is currently being evaluated under an Investigational New Animal Drug with FDA-CVM in the US where Pivotal Field Efficacy study treating cMCT is underway.

REFERENCES