Abstract Title: Evaluation of metronomic chemotherapy using low dose cyclophosphamide in dogs with solid tumors

Introduction: Metronomic chemotherapy (MCTX) using low-dose alkylating agents and a NSAID is a new anticancer therapy with potential benefit in veterinary oncology. The present study aimed to provide information about the adverse effects and response of tumor-bearing dogs treated with cyclophosphamide based MCTX.

Materials & Methods: Medical records were searched retrospectively for cases of dogs treated with metronomic cyclophosphamide for a minimum of 4 weeks with therapy monitoring and follow-up information available. Signalment, tumor type, stage, MCTX dose, regimen, concurrent medications/therapies, adverse effects and response were recorded.

Results: 59 dogs were included (30 carcinomas, 22 sarcomas, 7 other) of which 30 had macroscopic disease and 29 microscopic. Mean cyclophosphamide dose received was 12mg/m2 (6.5-19 mg/m2) with 20 dogs treated SID and 39 dogs EOD. Median therapy length was 156 days (range 28-1151d). Adverse effects were noted in 57% of dogs, mostly being grade 1-2 toxicities with anemia and azotemia being the most common. Grade 3 toxicities were reported for 8 dogs developing sterile haemorrhagic cystitis (13.5%) with a median time to development of 225 days (range 77-665d) and in 1 dog with azotemia. Stable disease was noted in 12 dogs with macroscopic disease, this group had a progression free interval (PFI) of 97days (25-851d). Dogs with microscopic disease had a PFI of 198 days (30-1151d).

Conclusion: MCTX was overall well tolerated. It seems that it could be more beneficial after local disease control but further studies are justified to assess what is the best setting for its use.