A Research Paper

Adverse Effects of Chemotherapy in Dogs.

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ABSTRACT

Owners of dogs with cancer are often offered chemotherapeutic treatment. However, clients who seek veterinary care for pets with cancer are often concerned about the potential negative impact of chemotherapeutic treatments on their animals' quality of life. The purpose of this retrospective case series was to investigate the delayed acute effects of chemotherapy drugs in dogs receiving cancer treatment and their owners' opinions regarding chemotherapy acceptance by their pet. In this study, 292 dogs that were treated with chemotherapy as a definitive and/or adjuvant treatment for cancer. Medical records were reviewed to determine the chemotherapy agent used and if they had any delayed adverse effects or not.

Side effects were classified according to VCOG-CTCAE grading of adverse effect severity veterinary co-operative oncology group. Lomustine, carboplatin, vincristine, doxorubicin, cyclophosphamide, mitoxantrone, and vinblastine were administered in 16%, 20%, 15%, 18%, 16%, 8%, and 7% of the cases respectively. The most common adverse effects were neutropenia (22%), vomiting (21%), diarrhea (20%) and inappetence (20%). Cyclophosphamide and vincristine were the agents that had caused more adverse gastrointestinal effects, while lomustine was the drug that had caused more hematologic effects. In some dogs receiving lomustine and carboplatin, neutropenia (some of them severe) had occurred as early as in the sixth day. According to the current grading system of adverse effects induced by chemotherapy, general tolerance to chemotherapy is referred to as grade 1, which was observed in 83% of the cases. Owner opinion was positive in most cases, and 77% of the owners had evaluated that the treatment was well tolerated by their dogs. In contrast, 8% of the treatments were poorly tolerated and they had negatively impacted the affected dogs' quality of life. Based on the data examined, we would recommend that gastrointestinal adverse effects must be prevented with antiemetic medication, especially in dogs receiving cyclophosphamide, vincristine, carboplatin and doxorubicin. Hematologic profile must be performed as early as in the 6-7th day after lomustine and carboplatin, as severe neutropenia can occur. Adverse chemotherapy effects may occur in about 20-25% of canine patients.

**Key words:** Canine, Oncology, Chemotherapy, Side effect, Tolerability
ABSTRACT

This study aimed to investigate the efficiency of mechanical and enzymatic elimination of semen viscosity during the breeding season. Bulls showed reaction time 40.0±8.23 seconds and 251±24.03 seconds for the enzymatic and mechanical treatments, respectively. The study recorded the lowest significant values for LIN, and second abnormalities 4.13±0.88% and 7.01±1.254%, respectively and acrosomal integrity was at 59.00±4.63% for the enzymatic treatment (8.33±0.14%), with the least significant effect (P <0.05) on the mechanically treated group (7.33±0.99%). The results also showed the same trend for first and second abnormalities.

Computer assisted semen analysis showed a significant superiority for the AET on mostly all sperm kinetics (DCL, DAP, VAP, VSL), except for DSL, VCL that showed highest significant chances of survival than patients with a resected distal small intestinal tract. There was no depletion in sodium, potassium, bicarbonate and chloride in all the parameters, serum electrolytes (Sodium, potassium, bicarbonate and, chloride) and enzymes. Non significant changes in the value of alanine aminotransferase in all the animals. It was therefore, concluded that patients with resection of proximal small intestinal tract have better adaptation, Alanine aminotransferase, Electrolytes, Haematology, Alkaline phosphatase, and associated lymph nodes, mesenteric lymph nodes and lymph node around head were determined to have been at 12.3%, 2% and 3.3%, respectively. The prevalence of the disease was at 22.3% (1.37/300) with visible lesions and there was poor agreement (kappa=0.09) between routine and detailed inspection methods. The proportion of lesions found in the lung and associated lymph nodes, mesenteric lymph nodes and lymph node around head were detected only 2.7% (8/300) with visible lesions and there was poor agreement (kappa=0.09) between routine and detailed inspection methods.