

IATROPATIC DISEASE INDUCED BY WRONGLY ADMINISTERED CHEMOTHERAPY

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Abstract

The purpose of this paper is to highlight the phenomena induced by wrongly administered chemotherapy called perivenous tissue necrobiosis (Doxorubicine and Vinca Rosa alkaloids – Vincristine, Vinblastine), and to show the proper administration of chemotherapy according to the action mechanism – strictly intravenously, intraperitoneally, by swallowing pills or in the neof ormation vessels of solid superficial tumors.

Key words: reversible, phenomena, chemotherapy, protocol, side effects.

INTRODUCTION

Administering the cancer therapy is a dangerous technique both for the patient and the doctor. Knowing the risks and the possible side effects is the prime purpose of our research thanks to which we have developed strict protocols and specific ways of administering the cytostatic medicine for pets.

MATERIALS AND METHODS

Holoxan and Doxorubicine - have been administered as followed: puncture the vein with a cannula or a micro perfusion butterfly (pay attention to cytostatic drugs incompatible with polyvinyl chloride) and by "washing the blood vessel". First of all the doctor must check the vein permanently and check if the cannula or the micro perfusion butterfly is still in the vein by repeatedly aspirating blood in the catheter tube. After the chemotherapy had been administered, a lavage is performed again with

10 to 20 ml of sterile saline solution.

The information was gathered from a total of 35 dogs treated with doses of chemo i.v. checked every 2 weeks for a total of 3 months. The patients were split in 3 different groups: cooperative, aggressive and agitated. The first groups of 22 patients ages between 9 and 14 both male and female presented cooperative and had no local side effects from the i.v. administration of the chemotherapy drug with a micro perfusion butterfly.

The second group of 6 patients ages between 7 and 9, 5 males and 1 female presented aggressive and restless. Post administration of the chemotherapy drug with a micro perfusion butterfly there have been signs of local irritation and hematomas, but these disappeared in the 2 weeks up to the next session. Finally the last group of 7 patients aged between 8 and 10 presented agitated and we have decided to use a cannula for the chemotherapy drug administration. Post treatment there were no signs of irritation or inflammation.



Tissue necrosis post faulty chemotherapy administration



Fig.1. Chemotherapy through cannula for an aggressive rottweiler with lymphoma



Chemotherapy with a micro perfusion butterfly for a docile black Cocker Spaniel with breast cancer

RESULT AND DISCUSSIONS

Some anti-cancer chemotherapeutic agents such as Ifosfamide, Cyclophosphamide, 5-fluorouracil, Streptozocine, consecutive extravasation causes only local irritation - reversible effects. The treatment for extravasation of vesicant cytostatic drugs in perivenous tissue is a specific antidote administered for each chemotherapy drug in the subcutaneous tissue. For the Vinca alkaloids: Vincristine, Vinblastine apply warm local compresses, 150 U/ml hyaluronidase is injected s.c. for each 1 ml of cytostatic drug extravasated. Also Hyaluronidase ointment is used for external use. In case of Doxorubicine and other anthracyclines extravasation apply Hydrocortisone ointment locally.

CONCLUSIONS

The toxicity and the complications of the cytostatic treatment determine varied and complex clinical aspects in relation to the chemical structure, the action mechanism, number and ways of administration, the doses and the time pasted between two consecutive treatments, the moment of the treatment, the result of the blood work and the features of the species.

Local cytotoxicity and proteolytic phenomena at the injection site are common side effects of chemotherapy if the protocol is not strictly followed. Local irritation action is determined by perivenous extravasation or administration by routes other than the specific ones of vesicant anticancer agents or irritants. They cause reversible pathological tissue phenomena in case of irritating agents – the initial appearance of redness, swelling, pain or,

irreversible phenomena triggered by vesicants such as phlebitis and even necrosis.

We recommend an adaptation of the treatment administration method to the type of patient you have. Both micro perfusion butterfly and cannula are indicated for the chemotherapy but none of them should be used more than a few minutes for the treatment. Cytostatic solution may reside in cannula or micro perfusion butterfly tube and that may lead to local irritation or even necrosis.

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