

UNIVERZITET U SARAJEVU - VETERINARSKI FAKULTET



Kemoterapija malignih oboljenja kod pasa i mačaka

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Chemotherapy for Malignant Diseases in Dogs and Cats

Diploma Thesis

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SAŽETAK

KEMOTERAPIJA MALIGNIH OBOLJENJA KOD PASA I MAČAKA

Kemoterapija je medicinski oblik liječenja koji podrazumijeva primjenu lijekova, odnosno citostatika, s ciljem uništavanja ćelija raka ili inhibicije njihovog rasta i diobe. Indicirana je kod neoplastičnih oboljenja koja se odlikuju ranom pojavom metastaza i/ili lokalno invazivnim rastom. Cilj primjene kemoterapije u veterinarskoj medicini nije isključivo produženje životnog vijeka, već i očuvanje kvalitete života, uz minimalne neželjene efekte na organizam domaćina. U veterinarskoj onkologiji koriste se različiti citostatici, kao što su: alkilirajući agensi, antimetaboliti, antibiotici, glukokortikoidi, spolni hormoni i vinka alkaloidi. Prema mehanizmu djelovanja mogu se podijeliti na: citostatike koji djeluju na određenu fazu u diobi ćelije i citostatike koji djeluju nespecifično. Citostatici se mogu primjenjivati peroralni, supkutano, intramuskularno i intravenozno. Najčešći način primjene citostatika jeste intravenozna aplikacija jer lijek najbrže dospijeva u cirkulaciju i nema faze resorpcije. Nakon distribucije, određeni citostatici metaboliziraju se u jetri pri čemu mogu nastati aktivni ili neaktivni metabolite. Prema porijeklu, hemijskom sastavu i mehanizmu djelovanja, citostatici se mogu podijeliti na različite grupe: citotoksične lijekove, citostatike koji se koriste u endokrinoj terapiji i citostatike biološki ciljane terapije (specifično inhibiraju procese rasta tumorskih ćelija), inhibitore enzima protein kinaze, derivate retinoične kiseline, metilhidrazine, arsen trioksid i dr. Citostatici najčešće remete sintezu i/ili funkciju makromolekula (DNK, RNK, proteina) ili funkciju ćelijskih organela, pri čemu mogu indicirati apoptozu (programiranu smrt ćelije). Kemoterapija se najčešće koristi kada lokalno liječenje nije dovoljno (hirurški zahvati i radioterapija) i u različitim kemoterapijskim protokolima, a najčešći su to CHOP i COP protokoli u liječenju limfoma pasa i mačaka.

Ključne riječi: Kemoterapija, citostatici, mehanizam djelovanja, kemoterapijski protokol.

SUMMARY

CHEMOTHERAPY OF MALIGNANT DISEASES IN DOGS AND CATS

Chemotherapy is a medical form of treatment that involves the use of drugs, i.e. cytostatics, with the aim of destroying cancer cells or inhibiting their growth and division. It is indicated for neoplastic diseases that are characterized by the early appearance of metastases and/or locally invasive growth. The aim of applying chemotherapy in veterinary medicine is not only to extend the life span, but also to preserve the quality of life, with minimal unwanted effects on the host's organism. Various cytostatics are used in veterinary oncology, such as: alkylating agents, antimetabolites, antibiotics, glucocorticoids, sex hormones and vinca alkaloids. According to the mechanism of action, they can be divided into: cytostatics that act on a specific phase in cell division and cytostatics that act non-specifically. Cytostatic agents can be administered orally, subcutaneously, intramuscularly and intravenously. The most common way of using cytostatics is intravenous application, because the medicine reaches the circulation the fastest and there is no resorption phase. After distribution, certain cytostatics are metabolized in the liver, where active or inactive metabolites may be formed. According to the origin, chemical composition and mechanism of action, cytostatics can be divided into different groups: cytotoxic drugs, cytostatics used in endocrine therapy and biologically targeted cytostatics (they specifically inhibit tumor cell growth processes), protein kinase enzyme inhibitors, retinoic acid derivatives, methylhydrazines, arsenic trioxide, etc. Cytostatics most often disrupt the synthesis and/or function of macromolecules (DNA, RNA, proteins) or the function of cellular organelles, where they can induce apoptosis (programmed cell death). Chemotherapy is most often used when local treatment is not enough (surgical procedures and radiotherapy) and in different chemotherapy protocols, the most common of which are CHOP and COP protocols in the treatment of lymphoma in dogs and cats.

Keywords: chemotherapy, cytostatics, mechanism of action, chemotherapy protocol.

