

INNERVATION OF THE COXO-FEMURAL JOINT CAPSULE IN THE DOG

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Introduction. The coxofemoral joint is one of the most robust joints in the dog due to the combination of a very resistant joint capsule and its ligaments. This joint is extremely sensitive to loading, combining stability with mobility. The capsule of the hip joint is exposed to increased tension, especially in the case of existing axial anomalies, with forces that have an uneven action, resulting in various inflammatory pathologies such as coxofemoral dysplasia, osteoarthritis that causes suffering and pain in the quadrupeds.

The goal of the paper. Elucidation of the morphofunctional organization of the components of the coxo-femoral joint in dogs, of the origin and distribution of the nerves that participate in the innervation of the regions of the canine pelvic limb, with the determination of the branches involved in the innervation of the joint capsule.

Material and methods. Scientific research has been carried out in the laboratory of the Technical University of Moldova. In order to demonstrate the contributions of the nerves and their involvement in the transmission of nerve impulses, 5 half-breed dog cadavers, respectively ten coxo-femoral joints, were subjected to an anatomo-topographical study. The bodies of the dogs were taken from different veterinary clinics of the city of Chisinau.

The hindquarters, pelvis, and hindlimbs were dissected using various morphological exploration techniques to highlight the regional topography. The anatomical components were previously fixed in 10% formalin solution for several days. In order to avoid inhalation of dangerous formalin vapors, a few days before preparation, the preservation solution was changed according to the method proposed by B. Berne.

Results. The innervation sources of the coxo-femoral joint capsule were highlighted by macroscopic and microscopic methods of fine anatomical dissection, according to V.P. Vorobyov. The results of the research demonstrate that the nerve branches penetrate the fibrous formations of the bones and their components, in the place of insertion of the muscles to the bone, being satellites of the blood vessels. The capsule of the canine coxofemoral joint in the cranioventral direction is innervated by the branches of the *N. femorales* nerve, caudoventrally by the *N. obturatorius*, craniolaterally by the *N. gluteus* cranialis and dorsolaterally, respectively by the *N. ischiaticus*. Branches of the *N. gluteus* caudalis were not observed to be involved in the innervation of the coxofemoral joint capsule.

Conclusions. The obtained information provides veterinarians with valuable data about the distribution and topography of the nerve pathways, and the structural and morphological interpretation of the sources of innervation is of essential anatomical and clinical interest, as well as therapeutic in the case of dogs with hip dysplasia and arthrosis. Implementation of the information in practice, provides an analysis of the possibilities of pain reduction and potential surgical interventions in the area of the hip joint.