COMPARATIVE RESEARCH ON SPINAL-DORSUM-LUMBAR MORPHOLOGY COMPLEX IN SHEEP AND DOG

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Abstract

Spinal-dorsum-lumbar musculature, located near the thoracic-lumbar spine and ribs, is divided into three longitudinal muscle systems, sideways, intermediate and medial, each of them composed of overlapping muscle bundles. These systems continue in the neck region. The research aimed to demonstrate the special development of this system in carnivores, compared with sheep, rapid movement within the first species being related to the possibility of hyperextension of the rachides.
Key words: *sheep, dog, spinal muscles.*

INTRODUCTION

The muscles in the spinal region form the spinal-dorsum-lumbar muscles, characterized by the extensor role of rachis. It arises by merging metameric muscle material, muscle bundles appearing from multiple segments (1,2,5,6).
Different possibilities for extension and flexion of the rachis correlate with spinal-dorsum-lumbar muscle growth, the reason why we made a comparative study of these at the two species (3,4,7,8).

MATERIALS AND METHODS

Research was conducted on a total of five sheep specimens and five canines, muscles being dissected on successive plans to visibility limit using SMZ 2-T Nikon stereo microscope. Most important elements were photographed. Description and approval formations were performed according N.A.V.-2005.

RESULTS AND DISSUTION

Ilicostal ovine lumbar muscle originates via a tendon on the iliac crest and hip angle, to insert on the last rib, distinct from the lumbar part of the great long dorsum lumbar. Its fleshy portion starts from the fourth lumbar vertebra and is visible under the thorax lumbar fascia, in front of the third lumbar vertebra. Ilicostal thoracic muscle bundles are very tendinous and jump four to six ribs.

The big long lower back muscle is tendinous in its lumbar portion and more muscular in its thoracic portion. Its origin is the median ridge of the sacrum, the iliac crest and ilium angles. The muscle is strengthened with beams that emerge from the lumbar spinous processes and last thoracic vertebrae. It sends medial beams on its ventral face that bundle on articular and mamilare lumbar processes, as the thoracic transverse processes. Other lateral beams catch on the lumbar transverse processes, on the dorsal extremities of the ribs and transverse process of seventh cervical vertebra.

Spinal and semispinal thoracic muscles are connected in the caudal part with own aponeurosisof the great long dorsum lumbar muscle, separating themselves from it in front of the first lumbar vertebras. Spinal fibers result from the spinous processes of the last four thoracic vertebras and first lumbar vertebra, as well as the supraspinatus ligament. Beam paths are nearly horizontal, lateral to the multifida muscle. Cranial, the muscle flattens and receiveshalf-plane bundles, from the transverse processes of the thoracic vertebrae six and seven. Together whit these they enter the cervical territory, to join and insert on the spinous processes of the last four cervical vertebras.

The dog'silicostal lumbar muscle is very well represented. It originates on the endopelvinaface of the ilium wing, on the iliac crest and an intermuscular septum that separates the lumbar part of the great long dorsum lumbar muscle. It inserts himself through some reduced cogging on the last four ribs. The thoracic portion is represented by a long, narrow fleshy mass that attaches to the ribs, except the first and last rib, reaching the transverse process of the last cervical vertebra. Its beams jump over 4-5 ribs. The great long dorsum lumbar muscle is covered with a very strong aponeurosis, separated from the thoracic lumbar fascia by adipose tissue. His beams origin on the iliac crest, on the endopelviana face of the iliac palette and on the lumbar spinous processes. The muscle send medial directed beams, from the ilium and the intermuscular septum, which separates it from the lumbar ilicostal muscle. These beams cover the lumbar transverse processes roots and ends on processes accessories, from the sixth thoracic vertebra to the first lumbar vertebra. The great long dorsum lumbar muscle's thoracic portion shows cogging that catch the tail endsof the ribs through widened and bifurcated tendon slides. Medial tendons are attached to the thirteen to sixth thoracic vertebrae accessories processes and fifth vertebra, which is missing the accessories processes, they catch the transverse processes, in their caudal part. Lateral tendons insert on the thirteen to sixth rib, right next to their tubers. Cranial to the sixth rib the muscle becomes so narrow that the tendons do not appear divided, catching them directly on the ribs and the transverse processes of the vertebrae.

CONCLUSIONS

Compared with sheep, the dog's spinal-dorsum-lumbar muscles are better represented, with a better represented insertion base.

At neither of these two species we cannot speak of a genuine "common ground" because of ilio-costal-lumbar muscle independence.

Development of the spinal-dorsum-lumbar complex is correlated with functional ability of the dog to move quickly by allowing hyperextension on the rachis.

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