THE ROOTS OF THE BRACHIAL AND LUMBOSACRAL PLEXUS IN MYOCASTOR COYPUS

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Summary

The topography of the brachial plexus is different between species. Therefore, in horses and ruminants the brachial plexus issues from the interlacing of ventral branches of the cervical nerves VI, VII, VIII and the thoracic nerves I, II, in the swine from the cervical nerves V, VI, VII and VIII and 1st thoracic nerve, in dogs from cervical nerves VI, VII, VIII and 1st and 2nd thoracic nerves, in cat from the cervical nerves VI, VII, VIII and 1st thoracic nerve (87).

The variations of the lumbosacral plexus are due to the different number of the lumbal and sacral vertebrae. Thus, all lumbal nerves do not compose the lumbosacral plexus in some species. The ventral branch of the 1st lumbal nerve doesn't participate to the plexus and the 2nd lumbal nerve is variable (59, 87).

The roots of the brachial and lumbosacral plexus were identified.

Key words: anatomy, nervous plexus, Myocastor coypus.

Materials and methods

The dissections were done over the brachial and lumbosacral plexus in 5 adult animals, the ventral braches of the spinal nerves, which forms the brachial and lumbar plexus.

Results and discussions

The brachial plexus is placed cranially to 1st rib, in contact with the dorsal scalen muscle, being lamellar whitish muscle from where the thoracic limb and cervico-thoracic nerves issue. The brachial plexus results from the interlacing of ventral branches of the cervical spinal nerves V, VI, VII, VIII and 1st thoracic nerve. The cervical roots are the strongest (Fig. 1).

The roots of the brachial plexus in Myocastor coypus are similar with those in swine. In the dissected animals the number of the lumbar spinal pairs was 6. There are 4 pairs of sacral spinal nerves, corresponding to the sacral vertebrae (65, 71, 85). The first two pairs of spinal lumbal nerves, iliohypograstric and ilioinguinal nerves there are not detached from the lumbosacral plexus. They are individually separated from the ventral branches of the first two lumbal nerves.

The 3rd lumbal spinal nerve issues an communicate branch for the lumbosacral plexus. The lumbal spinal nerves IV, V, VI and the first sacral nerve

are bounding and form lumbosacral plexus, having the obvious origin in the lumbal V and VI nerves, inconstantly the 1st sacral nerve.

From the lumbosacral nerves is detaching the cranial gluteus nerve, ischiadicus nerve, caudal gluteus nerve, caudal cutaneus femoral nerve (Fig. 2).

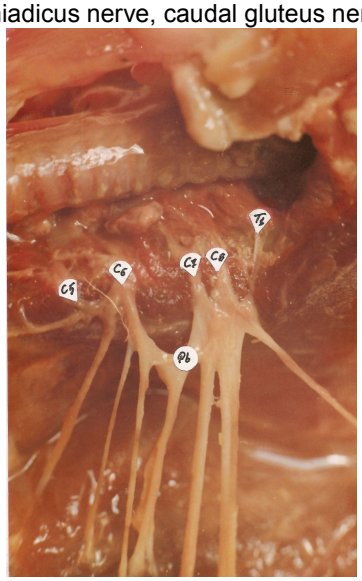

Fig. 1 The roots of the brachial plexus in Myocastor coypus
C_5-C_8 ventral roots of the cervical nerves V-VIII, T1-vent5ral branch of 1st thoracic nerve; Pb-brachial plexus.

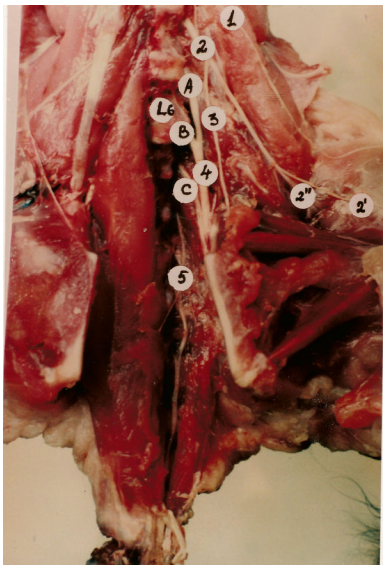

Fig. 2 The lumbo-sacral, lumbal nerves and sacral nerves in Myocastor coypus
1. Lateral cutaneus femoral nerve; 2. Femoral n.; 2`. Safen n.; 2``. Muscular branch; 3. Obturator n. 4. Tr. Lumbosacralis; 5. Sacral plexus; A. Spinal lumbal n.; B. VI spinal lumbal n.; C. 1st spinal sacral n.; L_6 – 6th lumbal vertebrae.

Conclusions

- Ventral branches of the cervical spinal nerves V, VI, VII, VIII and 1st thoracic nerve represent the roots of the brachial plexus.
- III, IV, V, VI lumbal spinal nerves and 1st sacral nerve make the lumbo-sacral plexus.
- The lumbosacral trunk is detached from the lumbo-sacral plexus, having the origin in the V, VI lumbal nerves and inconstantly 1st sacral nerve.

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