Original Article

ORIGIN AND DISTRIBUTION OF THE BRACHIAL PLEXUS IN WILD BOAR (*Sus scrofa* Linnaeus, 1758)

*ORIGEM E DISTRIBUIÇÃO DO PLEXO BRAQUIAL DE JAVALI (*Sus scrofa *Linnaeus, 1758)*

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ABSTRACT: The origin and distribution of the brachial plexus in wild boar (*Sus scrofa)*, a mammal belonging to the Suidae family were studied. Twelve specimens of wild boar, which were fixed in 10% formalin solution through different points of subcutaneous, intravenous, intramuscular, and intracavitary injections, following by immersing the specimens in the same solution were used. In present study, the brachial plexus of wild boar was a set of nerve fibers formed by the ventral branches from the fifth (C5) to eighth (C8) cervical and the first (T1) thoracic spinal nerves. The subclavian nerve was originated from C5, while the suprascapular nerve had its origin from C5 to C7. The cranial and caudal subscapular nerves were predominantly originated from C6 and C7, as well was the axillary nerve. The origin of the cranial and caudal pectoral nerves was from C7-C8 and C8-T1, respectively. The musculocutaneous nerve was mostly originated from C6 and C7, while the median and radial nerves had origin from C7 to T1. The origin of the ulnar, thoracodorsal, and lateral thoracic nerves was mostly from C8 and T1, while the long thoracic nerve was predominantly originated from C7 and C8. All nerves were responsible for the innervation of scapular girdle structures, arm, forearm, thorax and abdomen. In conclusion, the origin and distribution of the brachial plexus nerves in wild boar (*Sus scrofa*) are similar to domestic swine rather than to other wild species described in the literature.

KEYWORDS: Nervous system. Suidae. Thoracic limb.

INTRODUCTION

The wild boar (*Sus scrofa*) is a mammal belonging to the Suidae family, naturally found in Europe, Asia and North Africa, but can currently be found in several oceanic islands and all continents, except Antarctica (OLIVER; BRISBIN, 1993). Although in the same family, there are several differences between the wild boar and the domestic pig. In *S. scrofa*, there is presence of mane and long hairs, the length of the thoracic limbs is slightly larger than the hind limbs, and it is a higher and shorter animal (NOWAK, 1999).

In the early twentieth century, *S. scrofa* specimens were brought to Argentina with the purpose of serving as sport hunting, and some animals just escaped and spread through Northern Argentina, Uruguay and Southern Brazil (MIRANDA, 2003). As in other countries, in Brazil these invasive animals are causing environmental and economic impacts (IBAMA, 2010). In recent years, there has been a considerable increase in the creation of these animals as an alternative in the food industry (GOMES et al., 2013).

The knowledge about the nerves that comprise the nervous plexuses and structures innervated by them is important to understand the anatomical, physiological and postural features (DYCE et al., 2010). In addition, it enables an effective blocking of a given region in surgical procedures, and is crucial in clinical diagnosis (SCAVONE et al., 2007; IGLESIAS et al., 2012)

The brachial plexus is formed by a set of nerves with origin in the cervical and thoracic segments of the spinal cord and is distributed in the forelimb structures, scapular girdle, thorax and abdomen. In pigs, the brachial plexus is composed of the ventral branches of the fifth (C5), sixth (C6), seventh (C7) and eighth (C8) cervical spinal nerves and the first thoracic (T1) spinal nerve (GOSHAL, 1986c).

Although there are reports on the wild boar anatomy (NOCETTI et al, 2002; BOMBONATO et al., 2014), studies on the peripheral nerves of this animal species are scarcely explored. Thus, this study aimed to analyze the origin and distribution of the brachial plexus of wild boar (*S. scrofa*).

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MATERIAL AND METHODS

A total of 12 young *S. scrofa* specimens, five males and seven females, belonging to the collection of the Laboratory of Animal Anatomy, Federal University of Uberlândia, MG, Brazil, were used. The animals were fixed in 10% formalin solution through different points of subcutaneous, intravenous, intramuscular, and intracavitary injections, following by immersion of the specimens in containers having the same solution.

The dissections began with the removal of skin and adipose tissue of the back and thoracic regions at the level of the scapular girdle, through a median craniocaudal incision from the middle third of the neck to the xiphoid process of the sternum. Next, the trachea, the esophagus and the muscles were doubled down to display the cervical and first thoracic vertebrae, mainly the costal process of the sixth cervical vertebra and the first rib, which are important points of reference. In this manner, it was possible to identify the formation of the brachial plexus. To verify the distribution of the nerves, the dissection in regions of the scapular girdle, arm, forearm, thorax and abdomen was performed.

Data from the plexus origin were analyzed descriptively in terms of simple percentage. The study was approved by the Ethics Committee in Animal Experimentation of the Institution (103/13 registration protocol, CEUA/UFU). The adopted nomenclature to describe the anatomical structures is according to the International Committee on Veterinary Gross Anatomical Nomenclature (2012).

RESULTS

The brachial plexus was originated from the ventral branches of the fifth (C5), sixth (C6), seventh (C7) and eighth (C8) cervical spinal nerves and the first (T1) thoracic spinal nerve in all wild boar specimens studied. Thus, the brachial plexus consisted of fourteen nerves with different origins from C5 to T1 (Table 1 and Figure 1).

Table 1. Origin of the brachial plexus in wild boar (*Sus scrofa*).

Nerve	Origin	%
Subclavian	C5	100
Suprascapular	C5-C6-C7	83,4
	C5-C6	16,6
Cranial subscapular	C6-C7	100
Caudal subscapular	C6-C7	66,6
	C7-C8	33,4
Axillary	C6-C7	71
	C7-C8	29
Cranial pectoral	C7-C8	100
Caudal pectoral	C8-T1	75
	C7-C8	25
Musculocutaneous	C6-C7	62,5
	C7-C8	25
	C7-C8-T1	12,5
Median	C7-C8-T1	50
	C8-T1	50
Ulnar	C8-T1	91,6
	C7-C8-T1	8,4
Radial	C7-C8-T1	100
Thoracodorsal	C8-T1	69
	C7-C8	31
Long thoracic	C7-C8	75
	C8-T1	25
Lateral thoracic	C8-T1	100

C: cervical spinal nerve; T: thoracic spinal nerve.

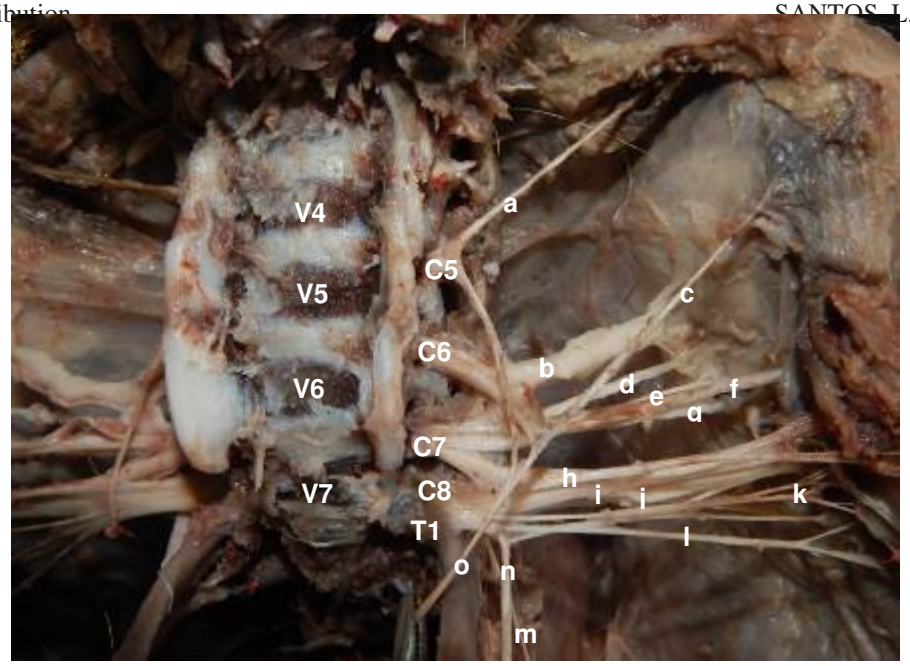


Figure 1. Ventral view of the cervicothoracic region in wild boar (*Sus scrofa*). (V4-V7) fourth, fifth, sixth and seventh cervical vertebrae, (C5-C8) fifth, sixth, seventh and eighth cervical spinal nerves, (T1) first thoracic spinal nerve (a), subclavian nerve, (b) suprascapular nerve (c) cranial pectoral nerve (d) subscapular cranial nerve, (e) caudal subscapular nerve (f) musculocutaneous nerve (g) axillary nerve, (h) median nerve, (i) ulnar nerve, (j) radial nerve, (k) caudal pectoral nerve, (l) thoracodorsal nerve, (m) lateral thoracic nerve (n) long thoracic nerve, (o) phrenic nerve.

Regarding the distribution of the nerves, the subclavian nerve supplied branches for the subclavian muscle; the suprascapular nerve provided branches to the supraspinous and infraspinous muscles, while the cranial subscapular nerve distributed only to the subscapular muscle. The caudal subscapular nerve delivered branches to both the subscapular and teres major muscles.

The axillary nerve supplied branches to the deltoid, teres minor and brachiocephalic muscles, and ended as cranial cutaneous nerve of forearm, which innervates the skin of this region. The cranial and caudal pectoral nerves distributed to the superficial and deep pectoral muscles. Regarding the musculocutaneous nerve, it provided branches to the coracobrachial, brachial and biceps brachii muscles; at the proximal third of forearm, the musculocutaneous nerve gave off the medial cutaneous branch of forearm, which innervates the fascia and skin of this region. The median nerve was responsible for the innervation of the pronator teres, flexor carpi radialis, superficial digital flexor (superficial and deep part), and deep digital flexor (ulnar, two humeral and radial heads) muscles.

Concerning the distribution of the ulnar nerve, in the proximal third of arm, the nerve gave off the caudal cutaneous nerve of forearm, which supplies the skin and fascia. In the proximal region of forearm, the ulnar nerve distributed to the flexor carpi ulnaris and superficial digital flexor muscles as well as to the humeral heads of the deep digital flexor muscle.

The radial nerve provided branches to the three heads of the triceps brachii, the tensor fasciae antebrachii and the anconeus muscles; at the elbow joint, the radial nerve subdivided into deep and superficial branches. In all specimens, the superficial branch of the radial nerve gave off the lateral cutaneous nerve of forearm that innervates the fascia and skin. The deep branch of the radial nerve distributed to the extensor carpi radialis, common digital extensor, extensor carpi obliquus, lateral digital extensor and extensor carpi ulnaris muscles.

The thoracodorsal nerve provided branches to the latissimus dorsi muscle and, in some cases, branches directed to the teres major muscle were observed; the long thoracic nerve distributed to the thoracic ventral serratus muscle; the lateral thoracic nerve gave off branches to the cutaneous muscle of trunk and the cranial preputial muscle in males.

The distribution of the brachial plexus nerves in wild boar (*Sus scrofa*) is summarized in Table 2 and illustrated in Figures 2 and 3.

Table 2. Distribution of the brachial plexus nerves in wild boar (*Sus scrofa*).

Nerves	Muscles
Subclavian	Subclavian
Suprascapular	Supraspinous and infraspinous
Cranial subscapular	Subscapular
Caudal subscapular	Subscapular and teres major
Axillary	Deltoid, teres minor and brachiocephalic
Cranial and caudal pectoral	Superficial and deep pectoral
Musculocutaneous	Coracobrachial, brachial and biceps brachii
Median	Pronator teres, flexor carpi radialis, superficial digital flexor (superficial and deep part), and deep digital flexor (ulnar, two humeral and radial heads)
Ulnar	Flexor carpi ulnaris, superficial digital flexor and humeral heads of the deep digital flexor
Radial	Triceps brachii, tensor fasciae antebrachii, anconeus, extensor carpi radialis, common digital extensor, extensor carpi obliquus, lateral digital extensor and extensor carpi ulnaris
Thoracodorsal	Latissimus dorsi and teres major
Long thoracic	Thoracic ventral serratus
Lateral thoracic	Cutaneous muscle of trunk and cranial preputial



Figure 2. Medial view of the scapular girdle, arm and forearm in wild boar (*Sus scrofa*). (a) subclavian nerve, (b) suprascapular nerve, (c) cranial subscapular nerve, (d) caudal subscapular nerve, (e) axillary nerve, (f) musculocutaneous nerve, (g) thoracodorsal nerve, (h) radial nerve, (i) ulnar nerve, (j) median nerve, (k) caudal pectoral nerve, (l) cranial pectoral nerve, (m) long thoracic nerve, (n) lateral thoracic nerve, (1) subclavian muscle, (2) supraspinous muscle, (3) subscapular muscle, (4) teres major muscle, (5) latissimus dorsi muscle, (6) tensor fasciae antechachii muscle, (7) long head of the triceps brachii muscle, (8) medial head of the triceps brachii muscle, (9) superficial digital flexor, (10) flexor carpi radialis muscle, (11) pronator teres muscle,(12) extensor carpi radialis muscle, (13) biceps brachii muscle, (14) deep pectorales muscle, (15) superficial pectorales muscle.

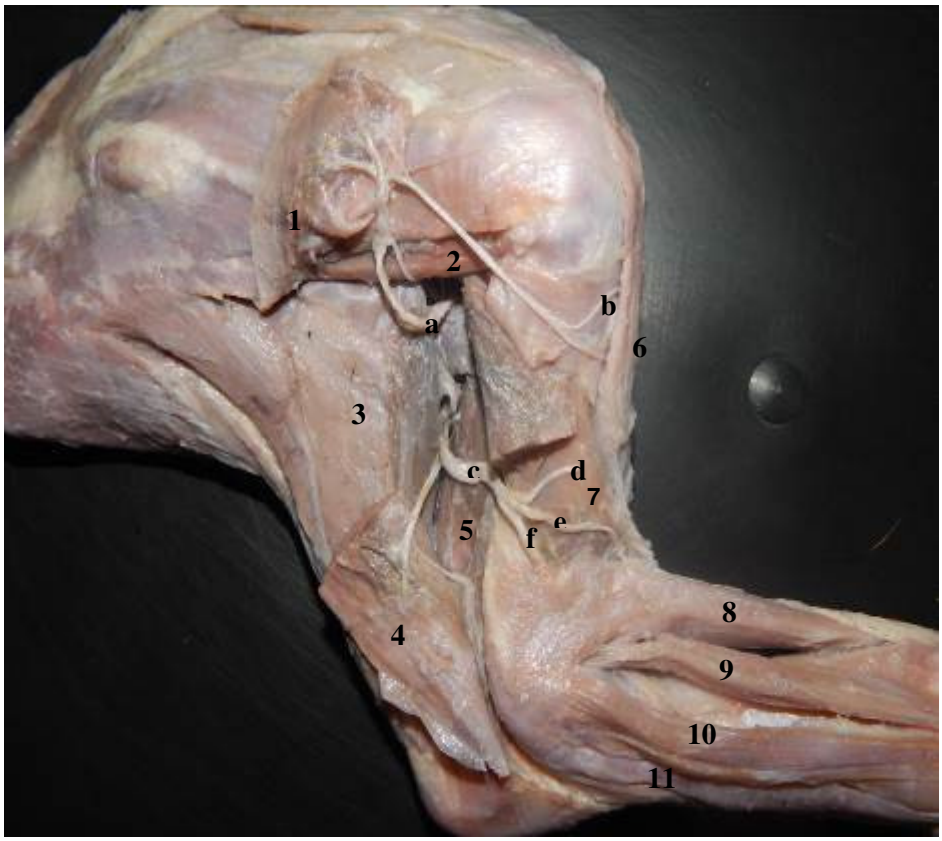


Figure 3. Lateral view of the scapular girdle, arm and forearm in wild boar (*Sus scrofa*). (a) axillary nerve, (b) forearm cranial cutaneous nerve, (c) radial nerve, (d) forearm lateral cutaneous nerve, (e) superficial branch of the radial nerve, (f) deep branch of the radial nerve, (1) deltoid muscle, (2) teres minor muscle, (3) long head of the triceps brachii muscle, (4) lateral head of the triceps brachii muscle, (5) medial head of the triceps brachii muscle, (6) brachiocephalic muscle, (7) brachial muscle, (8) extensor carpi radialis muscle, (9) common extensor digital muscle, (10) lateral digital extensor muscle, (11) extensor carpi ulnaris muscle.

DISCUSSION

In this study, the brachial plexus of *S. scrofa* was constituted of nerve fibers originating from the ventral branches of the cervical spinal nerves from C5 to C8 and the ventral branch of the first thoracic (T1) spinal nerve. These findings are consistent with reports in pigs (GHOSHAL, 1986c), brocket deer (*Mazama gouazoubira*) (VIEIRA et al., 2013), and short-eared dog (*Atelocynus microtis*) (PINHEIRO et al., 2013).

The contribution of the second (T2) thoracic spinal nerve in the composition of the brachial plexus as reported by Ghoshal (1986d) in dogs (*Canis familiaris*), Moura et al. (2007) in collared peccary (*Tayassu tajacu*), and Scavone et al. (2008) in paca (*Agouti paca*), was not observed in our study.

According to Moura et al. (2007), the origin of the brachial plexus in most of *T. tajacu* specimens was from C6, C7, C8 and T1, as also reported by Gamba et al. (2007) in chinchillas (*Chinchilla lanigera*). In *S. scrofa* the brachial plexus included all of the above nerves and extended to the cranial end, including the fifth (C5) cervical spinal nerve.

In the present study, all *S. scrofa* specimens showed symmetric origin of the brachial plexus, contrasting with the information found in *T. tajacu*, which showed variation ranged from C4 to T2 (5%), or C4 to T1 (11.7%), or C5 to T2 (13.3 %), or C5 to T1 (20%), or C6 to T2 (40%), or C6 to T1 (10%) (MOURA et al., 2007), supporting a wide intra-specific variation in the origin of the brachial plexus.

The distribution of the brachial plexus nerves to the muscles was evidenced in the scapular girdle, arm, forearm, thorax and abdomen. Thus, the subclavian nerve was originated from C5 in all specimens, differing from reports of Ghoshal (1986c) in pigs that showed the origin of this nerve from C6; however, our findings were similar to these reports (GHOSHAL, 1986c) regarding the distribution to the subclavian muscle.

The suprascapular nerve was originated from C5, C6 and C7 in 83.4% of *S. scrofa* specimens. Descriptions of Ghoshal (1986c) were 100% for pigs, Moura et al. (2007) found 33% in *T. tajacu* and Scavone et al. (2008) found 87.5% in *A. paca.* In four (16.6%) cases, the origin of the suprascapular nerve was from C5 and C6, similar to the findings of Scavone et al. (2008) in 12.5% of *A. paca* specimens and Souza et al. (2014) in 20% of giant anteater (*Myrmecophaga tridactyla*). These results differ from reports of Moura et al. (2007), whom found 50% in *T. tajacu*, Vieira et al. (2013) found 100% in *M. gouazoubira*, and Pinheiro et al. (2013) found 100% in *A. microti.* These authors mentioned the origin of the suprascapular nerve only from the ventral branches of C6 and C7. Regarding the distribution, the suprascapular nerve provided branches to the supraspinatus and infraspinatus muscles in all studied specimens, coinciding with information reports in dogs (EVANS; de LAHUNTA, 2001) and pigs (GOSHAL, 1986c).

The cranial subscapular nerve was originated from C6 and C7 in all *S. scrofa* studied, and after short course supplied branches to the subscapularis muscle, corroborating with reports of Goshal (1986c) in pigs. The caudal subscapular nerve was originated from C6 and C7 in 16 (66.6%) cases, as described by Evans and de Lahunta (2001) in dogs and Moura et al. (2007) in 50% of *T. tajacu* specimens. In eight (33.4%) cases, the caudal subscapular nerve was originated from C7 and C8, a position not yet described in the literature. However, the origin of the caudal subscapular nerve from C5, C6 and C7 as reported in 50% of *T. tajacu* specimens (MOURA et al. 2007) was not observed in *S. scrofa* specimens of the present study. The caudal subscapular nerve conceded branches to the subscapular and teres major muscles in all *S. scrofa* specimens, confirming the findings in *C. lanigera* (GAMBA et al., 2007), fur seal (*Arctocephalus australis*) (SOUZA et al., 2010) and *M. gouazoubira* (VIEIRA et al., 2013), but contrasting with the descriptions of Ghoshal (1986c) in pigs, who showed branch only to the subscapularis muscle in pigs. Branches from caudal subscapular nerve to the latissimus dorsi muscle, as reported by Scavone et al. (2008) in *A. paca*, were not observed in present research.

The axillary nerve was originated from C6 and C7 in 71% of *S. scrofa* specimens, in agreement with Ghoshal (1986c) in pigs, Gamba et al. (2007) in *C. lanigera*, Scavone et al. (2008) in *A. paca*, Rosa et al. (2012) in *M. tridactyla*, and Vieira et al. (2013) in *M. gouazoubira*. In addition, the axillary nerve fibers were derived from C7 and C8 in 29% of cases, as described by Ghoshal (1986d) in dogs and Lizardo et al. (2013) in fetuses of zebu-crossed cattle. In all studied *S. scrofa* specimens, the axillary nerve conceded branches to the deltoid, teres minor, and brachiocephalic muscles, and finally gave off the cranial cutaneous branch of forearm.

These findings support the descriptions of Evans and de Lahunta (2001) in dogs, Gamba et al. (2007) in *C. lanigera*, Scavone et al. (2008) in *A. paca*, Souza et al. (2010) in *A. australis* and Lizardo et al. (2013) in fetuses of zebu-crossed cattle.

The cranial pectoral nerve, in all *S. scrofa* specimens, was originated from C7 and C8, similar to the reports of Ghoshal (1986c) in pigs and Souza et al. (2014) in *M. tridactyla*. Gamba et al. (2007) reported the origin of this nerve only from C7 in *C. lanigera*, and this was not observed in the present study. On the other hand, the caudal pectoral nerve was originated from C8 and T1 in 75% of *S. scrofa* specimens, coinciding with the information of Scavone et al. (2008) in *A. paca*. In 25% of cases, the caudal pectoral nerve was originated from the ventral branches of C7 and C8, corroborating with reports of Ghoshal (1986b) in cattle, Pinheiro et al. (2013) in *A. microtis* and Gamba et al. (2007) in *C. lanigera*. Concerning the distribution of the cranial and caudal pectoral nerves, branches were supplied to the superficial and deep pectoral muscles, as reported by Gamba et al. (2007) in *C. lanigera*, and Vieira et al. (2013) in *M. gouazoubira*. Ghoshal (1986a) in cattle also found branches to the deep pectoral muscle in horses. However, fibers of the cranial and caudal pectoral nerves to the brachiocephalic muscle as reported by this latter author were not seen in *S. scrofa.*

The musculocutaneous nerve in 15 (62.5%) *S. scrofa* was originated from C6 and C7, coinciding with reports of Ghoshal (1986c) in pigs and Souza et al. (2010) in *A. australis*. In six (25%) cases, the musculocutaneous nerve was derived from C7 and C8, consistent with reports of Moura et al. (2007) who found the same composition in 80% of *T. tajacu* specimens. In three (12.5%) cases, this nerve was originated from C7, C8 and T1, as observed by Moura et al. (2007) in 20% of *T. tajacu* specimens. The origin of musculocutaneous nerve from C6, C7 and C8 was described in *M. gouazoubira* (VIEIRA et al., 2013) and from C8 and T1 in *A. paca* (Scavone et al., 2008). However, these origins of the musculocutaneous nerve were not found in *S. scrofa.* In all studied animals, the musculocutaneous nerve conceded branches to the coracobrachial and biceps brachii muscles, agreeing with reports of Ghoshal (1986c) in pigs and Scavone et al. (2008) in

A. paca. The brachial muscle received fibers of the distal branch of the musculocutaneous nerve in 100% of cases. Similar to the findings of Vieira et al. (2013) in *M. gouazoubira*, the musculocutaneous nerve gave off the medial cutaneous branch of forearm that has distributed in the fascia and skin of the forearm proximal third in all specimens, as reported by Ghoshal (1986c) in pigs.

The median nerve resulted from the union of C7, C8 and T1 in 50% of *S. scrofa* analyzed, as reported by Ghoshal (1986c) in pigs, Moura et al. (2007) in 40% of *T. tajacu*, Chagas et al. (2012) in 93.3% of swine, Pen Air Lan lineage, and Vieira et al. (2013) in 100% of *M. gouazoubira*. The origin of the median nerve was from C5, C6, C7, C8 and T1 in *M. tridactyla* (Souza et al., 2014) and in 58% of *T. tajacu* specimens (MOURA et al., 2007). Souza et al. (2010) described the origin of the median nerve from C7, C8, T1 and T2 in *A. australis*. This situation was not observed in *S. scrofa* specimens analyzed, but the origin from C8 and T1 was observed in 50% of cases, corroborating with Scavone et al. (2008) in *A. paca*. The distribution of the median nerve in *S. scrofa* is similar to pigs (GHOSHAL, 1986c). In the proximal third of forearm, the median nerve was deeply extended to the pronator teres muscle and supplied branches to the pronator teres, flexor carpi radialis, superficial digital flexor (superficial and deep part), deep digital flexor (ulnar, two humeral and radial heads), corroborating with the descriptions of Souza et al. (2010) in *A. australis*, Vasconcelos et al. (2012) in *S. scrofa* and Vieira et al. (2013) in *M. gouazoubira*. In this study, the median nerve fibers were also distributed to the flexor carpi ulnaris muscle, in all animals, as described by Ghoshal (1986c) in pigs.

The ulnar nerve was originated from C8 and T1 in 91.6% of *S. scrofa*, as described by Ghoshal (1986c) in pigs, Scavone et al. (2007) in *A. paca*, and Vieira et al. (2013) in *M. gouazoubira*. In two (8.4%) cases, the ulnar nerve was originated from C7, C8 and T1, as described by Gamba et al. (2007) in *C. lanigera*. Thus, the ulnar nerve has diverse origin and intraspecific variation in different species of mammals. It had origin from C7, C8 and T1 in cattle (GHOSHAL, 1986b), C8, T1 and T2 or C8 and T1 in *T. tajacu* (MOURA et al., 2007) and C5 and T1 in *M. tridactyla* (Souza et al., 2014). The ulnar nerve in *S. scrofa*, at the proximal third of arm, the nerve gave off the forearm caudal cutaneous nerve to supply the fascia and skin in 100% of cases, in accordance with reports of Ghoshal (1986c) in pigs. In the proximal region of forearm, the ulnar nerve provided branches to the flexor carpi ulnaris, superficial digital flexor muscles and the humeral and ulnar heads of the deep digital flexor in all specimens studied, as mentioned by Vieira et al. (2013) in *M. gouazoubira* and Gamba et al. (2007) in *C. lanigera*. At the distal third of forearm, the ulnar nerve divided into palmar and dorsal branches.

The radial nerve was originated from C7, C8 and T1 in all *S. scrofa* specimens studied, similar to that described by Ghoshal (1986c) in pigs, Gamba et al. (2007) in *C. lanigera*, Guimarães et al. (2007) in domestic cats (*Felis catus domesticus*), Scavone et al. (2008) in *A. paca* and Souza et al. (2010) in *A. australis*. However, Moura et al. (2007) have described different origins from this nerve in *T. tajacu*, such as from C8, T1 and T2 in 58.4% of cases, and C8 and T1 in 41.6% of cases. In addition, Vieira et al. (2013) reported that the radial nerve fibers were derived from C7 and C8 in all *M. gouazoubira* specimens. These latter situations have not been observed in *S. scrofa* analyzed in this experiment. The radial nerve provided branches to the three heads of the triceps brachii muscle in all *S. scrofa* studied. In the distal third of arm, the nerve was directed to the tensor fasciae antebrachii and anconeus muscles, and at the elbow joint, the radial nerve was divided into deep and superficial branches, agreeing with reports in pigs (GHOSHAL, 1986c). The superficial branch of the radial nerve provided the forearm lateral cutaneous nerve that has distributed in the fascia and skin in all animals. The deep branch of the radial nerve conceded branches to the extensor carpi radialis, common digital extensor, extensor carpi obliquus, lateral digital extensor digitorum and extensor carpi ulnaris muscles, consistent with the findings of Ghoshal (1986c) in pigs. According Ghoshal (1986bc), the radial nerve can send branches to the brachial muscle in cattle and pigs, and this fact was evidenced in one case of the present study.

The thoracodorsal nerve was originated from C8 and T1 in 69% of *S. scrofa*, corroborating with reports of Santos et al. (2010) in zebu-crossed bovine fetuses and Ghoshal (1986b) in cattle. However, in 31% of cases, this nerve was originated from C7 and C8, as described by Ghoshal (1986c) in pigs and Vieira et al. (2013) in *M. gouazoubira*. The different origins of the thoracodorsal nerve were described by Moura et al. (2007) in *T. tajacu* (C6, C7 and C8), Scavone et al. (2008) in *A. paca* (C8, T1 and T2), and Tavares et al. (2012) in *Sus scrofa* (C6 and C7). These origin variations were not observed in *S. scrofa* analyzed. The thoracodorsal nerve fibers of *S. scrofa* were primarily directed to the latissimus dorsi muscle, but branches to the teres major muscle were also found in 8.3% of cases,

coinciding with reports of Ghoshal (1986c) in pigs, Tavares et al. (2012) in swine, Pen Ar Lan lineage, and Vieira et al. (2013) in *M. gouazoubira*. However, fibers directed to the deep pectoral muscle as reported by Ghoshal (1986b) in sheep were not observed in our study.

The long thoracic nerve was originated from C7 and C8 in 75% of *S. scrofa*, consistent with reports of Ghoshal (1986c) in pigs, Moura et al. (2007) in *T. tajacu*, Gamba et al. (2007) in *C. lanigera*, Scavone et al. (2008) in *A. paca* and Vieira et al. (2013) in *M. gouazoubira.* Souza et al. (2014) reported that the origin of the long thoracic nerve was from C6 and C7 or C5, C6 and C7 in 60% and 40% of *M. tridactyla*, respectively, which was not observed in the present study. However, the origin of the long thoracic nerve at C8 and T1 was found in 25% of specimens of this work. The long thoracic nerve conceded branches to the thoracic ventral serratus muscle in 100% of *S. scrofa* analyzed, as reported by the above authors, except for Scavone et al. (2008), whom reported that this nerve provided branches only to the latissimus dorsi muscle in *A. paca*.

The lateral thoracic nerve was originated from C8 and T1 in 100% of *S. scrofa* specimens, agreeing with reports of Ghoshal (1986c) in pigs, Moura et al. (2007) in 41.6% of *T. tajacu*, and Souza et al. (2014) in 80% of *M. trydactyla*. The lateral thoracic nerve was derived from C8, T1 and T2 in 58% of *T. tajacu* (MOURA et al., 2007) and 100% of *A. paca* (SCAVONE et al., 2008) studied. This condition was not observed in the present study. Regarding the distribution of the lateral thoracic nerve, this nerve provided branches to the cutaneous muscle of trunk; in males (five cases), branches to the cranial preputial muscle were observed, as pointed out by Ghoshal (1986c) in pigs as well to the deep pectoral muscle according to Vieira et al. (2013). However, branches to the latissimus dorsi and external abdominal oblique muscles as mentioned by Vieira et al. (2013) in *M. gouazoubira*, were not observed in *S. scrofa.*

In conclusion, the origin and distribution of the brachial plexus nerves in wild boar (*Sus scrofa*) are similar to domestic swine rather than to other wild species described in the literature. Thus, it is expected that the findings in this study may contribute to clinical diagnosis or any surgical procedures for commercial purposes and especially the preservation of this species.

RESUMO: O javali (*Sus scrofa*) é um mamífero que pertencem família Suidae. Estudou-se a origem e distribuição do plexo braquial de javali. Utilizou-se 12 exemplares destes animais, que foram fixados em solução aquosa de formaldeído a 10% mediante diferentes pontos de injeção subcutânea, intravenosas, intramuscular e intracavitária, seguindo-se a imersão dos espécimes em recipientes contendo a mesma solução. O plexo braquial de javali é um conjunto de nervos formados por fibras dos ramos ventrais do quinto ao oitavo nervos espinhais cervicais e do primeiro nervo espinhal torácico. O nervo subclávio originou-se de C5, subescapulares cranial e caudal de C6 a C7, supraescapular de C5 a C7, peitorais cranial e caudal de C7 a C8, axilar de C7 a C8, musculocutâneo de C6 a C7, mediano de C7 a T1, radial de C7 a T1, ulnar de C8 a T1, toracodorsal de C8 a T1, torácico lateral de C8 a T1, torácico longo de C7 a C8 e subclávio de C5, os quais foram responsáveis pela inervação de estruturas do cíngulo escapular, braço, antebraço, tórax e abdome. Em conclusão, a origem e distribuição dos nervos do plexo braquial de javali (*Sus scrofa*) são mais similares aos suínos domésticos do que com outras espécimes silvestres descritas na literatura.

PALAVRAS-CHAVE: Sistema nervoso. Suidae. Membro torácico.

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