

They resign from all yrs. *rr. ventrales* cervical plexus.

Innervation:

- C1 – m. rectus capitis lateralis
- C1, C2 – m. rectus capitis anterior
- C2, C3 – m. longus capitis
- C2-C4 – m. longus colli

N. phrenicus (C4, secondary fibers from C3 and C5)

N. phrenicus is a relatively strong, mixed nerve with a predominance of motor fibers.

Course: it emerges from the cervical plexus at the lateral edge of the *scalenus anterior muscle*, and converges on its front surface through the *apertura thoracis superior* (placed in front of the n. vagus) caudally into the mediastina.

- *N. phrenicus dexter:* descends further between *a. et v. subclavia*, along the right edge of *v. brachiocephalica dextra* and *v. cava superior*.
- *N. phrenicus sinister:* descends between *a. et v. subclavia*, attaches to the left side of the *arcus aortae* (in the front of n. vagus sinister)

Both nerves then run caudally along the sides of the pericardium between the pericardium and the mediastinal pleura ventral to the pulmonary hilae. Part of the fibers passes to the right through the *foramen venae cavae* and part to the left through the *hiatus oesophageus* to the abdominal surface of the diaphragm.

Innervation:

Motor fibers:

- *rr. phrenici* – innervate the diaphragm

Sensitive fibers:

- *rr. pericardia* – fibers for the pericardium, mediastinal and diaphragmatic pleura
- *rr. phrenicoabdominales* – innervates the peritoneum below the diaphragm up to the level of the gallbladder and pancreas

N. phrenicus accessorius – accessory fibers usually from C5 conducted as a separate branch from the brachial plexus

Clinical notes:

n. Phrenicus damage dx. or son causes paralysis of the corresponding part of the diaphragm. Irritation of the nerve causes twitching of the diaphragm, which may be a sign of inflammation of the peritoneum or brain damage. In the common case, it is a hiccup (singultus).

Links

References

- DYLEVSKÝ, Ivan – DRUGA, Rastislav – MRÁZKOVÁ, Olga. *Functional Human Anatomy*. 1. edition. Grada Publishing, 2000. 664 pp. ISBN 80-7169-681-1.
- ČIHÁK, Radomír. *Anatomy III. 2.*, edit and add edition edition. Grada, 2004. 673 pp. ISBN 80-247-1132-X.

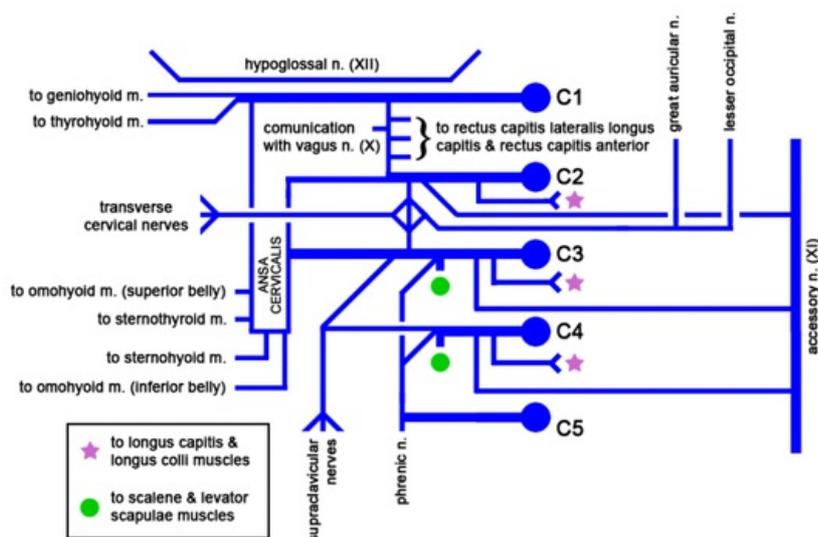


Diagram of the cervical plexus