

Hypoglossal nerve

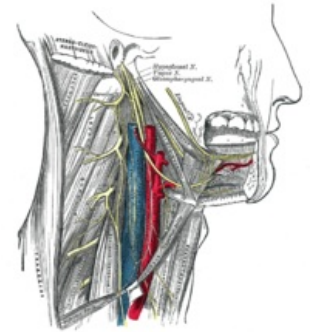
N. XII., sublingual nerve is a nerve for the motor innervation of the tongue.

Anatomy

Innervation

Motorically, it innervates all intraglossal and extraglossal muscles (except m. palatoglossus, n. vagus)

Note: *Connections from the cervical spinal cord* also innervate the infrahyoid muscles through the hypoglossal nerve.



Gray794

Core

- *nucleus nervi hypoglossi* – motor nucleus located under the base of IV. cerebral ventricles, at the level of the medulla oblongata

Tribe Progress

Fibers (10-15) emerge from the nucleus of the spinal cord elongated ventrolaterally, emerging in front of the olive, where the root fibers converge in the trunk of the hypoglossus nerve, which exits the skull through the condyles in the **canalis nervi hypoglossi**.

After exiting the skull, it receives nerve fibers from C1-C3 to innervate the infrahyoid muscles.

- **arcus nervi hypoglossi** is an arched twist of n. XII. under the back belly **m. digastricus**, crosses the arteria carotis externa and interna, is slightly raised by the course of the sternocleidomastoidea artery, goes forward and receives enters the gap between the mylohyoideus and hyoglossus muscles, between the muscles of the tongue it connects with n. lingualis, which connects its **proprioceptive fibers to n. XII.v**

Branch

1. junction with n. vagus and sympathetic trunk (parasympathetic and sympathetic fibers for tongue vessels)
2. **radix superior ansae cervicalis** (*ramus descendens nervi hypoglossi*) – receives fibers from C1 and C2, separates at the crossing point with a. carotis interna, to m. omohyoideus
3. connecting with the *radix inferior ansae cervicalis* (from nerves C2 and C3) creates the *ansa cervicalis* (ansa cervicalis profunda, ansa nervi hypoglossi) - innervates the infrahyoid muscles (m. omohyoideus, sternohyoideus, sternothyroideus, thyrohyoid)
4. **rami linguales** - final branches from the *arcus nervi hypoglossi*

Neurology

Clinical picture in violation of n. XII:

- For **unilateral nuclear or infranuclear lesion**:
 - hemiglossoplegia occurs (paralysis of half of the tongue)
 - the affected side of the tongue is **atrophic**, sometimes there are **fasciculations**
 - at rest the tongue turns to the healthy side and when crawling it turns the opposite way, i.e. to the affected side
- For **bilateral lesions**:
 - there is paralysis of both halves of the tongue (**glossoplegia**) - cannot crawl out, speech is impaired (**dysarthria**)
- **Unilateral supranuclear lesion** affecting the **tractus corticobulbaris**
 - the muscles of the contralateral half of the tongue are slightly affected
 - when crawling, the tongue deviates to the healthy side (predominance of the healthy half)
 - there is no atrophy or fasciculation
 - most common cause is **stroke** where these symptoms are accompanied by hemiplegia

Links

Related Articles

- Intraglossal muscles
- Extraglossal muscles

- Bulbar Syndrome

References

- ČIHÁK, Radomír. *Anatomie 3*. 2. edition. Praha : Grada Publishing a. s., 2004. 692 pp. ISBN 80-247-1132-X.
- AMBLER, Zdeněk. *neurologie pro studenty lékařské fakulty*. 1. edition. Praha : Karolinum, 2001. 399 pp. ISBN 80-246-0080-3.