CNS Block

Anatomy Team-430

10Th Lecture

11th and 12th cranial nerve

This Lecture is done by:

Ghada AlOtaibi

11th accessory nerve

-Type :-motor (SVE)= (special visceral efferent)

-Has two parts:- 1- cranial (originate from the **Nucleus ambiguus (NA)** in the medulla oblongata

2- spinal part (originate from **ventral grey horn in the upper 5 cervical segments**

-Site of emergence :- the fibers emerge from the anterior surface of the medulla oblongata between the **olive** and the **inferior cerebellar peduncle** (ICP)

Hypoglossal nerve(12th)

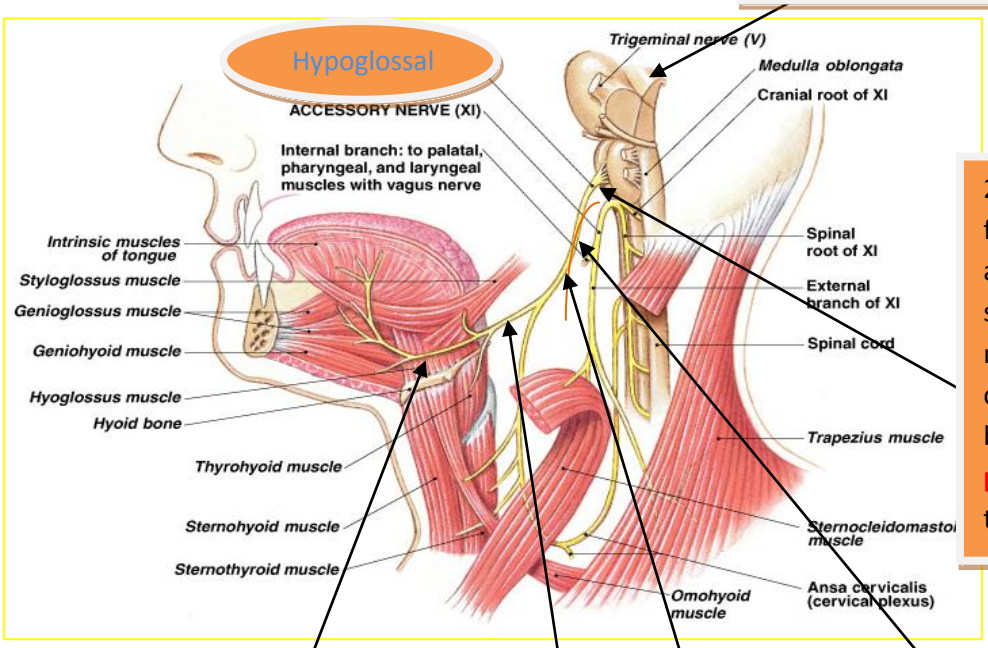
-Type: **Motor (GSE)**

-Origin: **Hypoglossal nucleus of the medulla** (in the floor of 4th ventricle)

-Foramen of exit from skull: **Hypoglossal canal**

1-hypoglossal nucleus receives **corticonuclear** fibers (afferent) from both cerebral hemispheres **EXCEPT** the region that supplies genioglossus muscle (it receives contralateral supply only)

Also receives afferent fibers from nucleus solitarius and trigeminal sensory nucleus



2-emerge from the anterior surface of the medulla oblongata between the **pyramid** and the **olive**.

3A-courses downward with cervical neurovascular bundle (internal carotid artery, internal Jugular vein, vagus nerve)

During its initial course, it carries **C1 fibers** which leave in a branch to take part in the formation of **ansa cervicalis (** which is a loop of nerves that are part of the cervical plexus)

4-Curves forward behind mandible to supply the **tongue.**

5-Supplies motor innervation to all of the muscles of the tongue except the **palatoglossus** (which is supplied by the **vagus**). .

- **Carries proprioceptive afferents from the tongue muscles**)

- Function: **Controls the movements and shape of the tongue during speech and swallowing**

**Lesion :

-loss of tongue movement

-the tongue paralyses, atrophies, becomes shrunken and furrowed on the affected side (LMN paralysis)

-on protrusion, tongue deviates to the affected side

-if both nerves are damaged, person can't protrude tongue

Summary:

1- **The 3 nerves leaving the cranial cavity by passing through the jugular foramen are (Glossopharyngeal 9^{TH} , vagus 10^{th} , accessory 11^{th}) & all of them emerge from the space between the olive and ICP . While the hypoglossal exits from the hypoglossal canal .**

2- **SVE(special visceral efferent)5^{TH} ,7^{TH} ,9^{TH} ,10^{TH} 11^{TH} : supply the muscle that originally form from the pharyngeal (brachial) arch, and those muscle are semi voluntary (some time you can control them but some time not) .**

3- **GSE 3th ,4^{th} ,6^{th} ,12^{th} : MOTOR SUPPLY for voluntary muscle**

Nerve	Accessory	Hypoglossal
Type	Motor SVE	Motor GSE
Supply	Muscle of the larynx and pharynx,soft palate , stylomastoid and trapezius	Muscle of the tongue
Lesion	Difficulty in swallowing ,speech ,turning the head and rise the shoulder	abnormality in tongue movement

MCQ :

1-All of the following exit the skull from the jugular foramen except :

a-9^{th} b-11^{th} c-12^{th} d-10^{th}

2- patient came to the hospital with difficulty in moving his tongue ,on examination the tongue was turned to the left side, the problem in :

a-left 12^{TH} b-right 12^{TH} c-11^{TH}

3-patient comes to the hospital with winging scapula ,what is the affected nerve :

a-9^{th} b-10^{th} c-11^{th}