CN IX

CN IX is also known as the glossopharyngeal nerve. It is a motor and sensory nerve that has various functions including swallowing and taste sensation for the posterior 1/3 of the tongue. It is also important for regulation of heart rate via baroreceptors in the carotid sinus and regulation of respiratory drive via chemoreceptors in the carotid body.

PLAY PICMONIC

Glossopharyngeal Nerve

Glass-pharaoh

The glossopharyngeal nerve travels through the jugular foramen. The solitary tract, which terminates in the solitary nucleus, transmits taste from the tongue and afferents from the carotid body and sinus. The nucleus ambiguus, which is actually a tract, transmits the motor functionality.

Sensory

Sensor

CN IX has visceral sensory (monitoring carotid body and sinus), general sensory (skin of the external ear etc) and special sensory functionality (taste sensation).

Taste from Posterior 1/3 of Tongue

Taste-sensors on Posterior 1/3 of Tongue

CN IX is responsible for taste sensation for the posterior 1/3 of the tongue via the foliate and circumvallate papillae.

Monitoring Carotid Body and Sinus

Receptor-sensor on Carrot

CN IX innervates the carotid body (chemoreceptors) and the carotid sinus (baroreceptors). The chemoreceptors respond to decreased PO2 and increased PCO2 by increasing respiratory drive. The baroreceptors respond to pressure such that carotid massage leads to increased afferent baroreceptor firing and decreased heart rate. Carotid massage can be used to treat supraventricular tachycardia (SVT).

Motor

Motor

CN IX supplies the stylopharyngeus muscle which is responsible for the motor functions of swallowing and speech.

Stylopharyngeus

Stylish-pharaoh

This muscle elevates the pharynx during swallowing and speech.

Swallowing

Swallow

Can help evaluate CN IX by asking the patient to swallow a sip of water.

Salivation

Drooling

CN IX provides parasympathetic innervation to the parotid gland, which is responsible for salivation.