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A Short Note on Cranial Nerve and Their Functions in Detail

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INTRODUCTION

Cranial nerves are nerves that emerge directly from the brain, and there are traditionally thought to be twelve pairs. Cranial nerves transmit information from the brain to various parts of the body, primarily to and from the head and neck, and include the special senses of vision, taste, smell, and hearing. The cranial nerves emerge from the central nervous system above the level of the vertebral column's first vertebrae. Each cranial nerve has a paired counterpart and is present on both sides. There are twelve pairs of cranial nerves, which are denoted by Roman numerals. Some believed that there were thirteen pairs of cranial nerves, one of which was cranial nerve zero. The cranial nerves are numbered in the order in which they emerge from the brain and brainstem, from front to back.

DESCRIPTION

The cranial nerves travel within the skull after emerging from the brain, and some must leave it to reach their destinations. As they travel to their destinations, nerves frequently pass through holes in the skull known as foramina. Other nerves travel through bony canals, which are longer pathways surrounded by bone. These foramina and canals may contain multiple cranial nerves as well as blood vessels. The cranial nerves primarily supply motor and sensory signals to structures in the head and neck. Temperature and touch are examples of "general" sensations, while taste, vision, smell, balance, and hearing are examples of "special" senses. The vague nerve supplies sensory and autonomic signals to structures in the neck, as well as to the majority of organs in the chest and abdomen. Although it has been linked to hormonal responses to smell, sexual response, and mate selection, the terminal nerve may not play a role in humans. The olfactory nerve transmits information to the brain, giving rise to the sense of smell. Damage to the olfactory nerve can result in an inability to smell, a distortion in the sense of smell, or a distortion in the sense of smell. The optic nerve is responsible for transmitting visual information. Damage to the optic nerve affects specific aspects of vision depending on where the damage occurs. If the optic chiasm is involved, a person may be unable to see objects on their left or right sides (homonymous hemianopsia) or may have difficulty seeing objects from their outer visual fields (bitemporal hemianopia). Inflammation (optic neuritis) can impair vision sharpness or colour detection. The oculomotor nerve, trochlear nerve, and abducens nerve all work together to control eye movement. Except for the superior oblique muscle, which is controlled by the trochlear nerve, and the lateral rectus muscle, which is controlled by the abducens nerve, the oculomotor nerve controls all eye muscles. This means that the trochlear nerve controls the ability of the eye to look down and inwards, the abducens nerve controls the ability to look outwards, and the oculomotor nerve controls all other movements. Damage to these nerves may impair eye movement. Because the movements of the eyes are not synchronized, damage can cause double vision (diplopia). Examination may reveal abnormalities in visual movement, such as jittering (nystagmus).This nerve may cause swallowing difficulties. Damage to the accessory nerve causes weakness in the trapezius muscle on the affected side. Because the trapezius lifts the shoulder when shrugging, the affected shoulder cannot shrug and the shoulder blade protrudes into a winged position. Depending on where the lesion is located, there may also be weakness in the sternocleidomastoid muscle, which acts to turn the head so that the face points to the opposite side. The hypoglossal nerve supplies the intrinsic tongue muscles, which control tongue movement. The hypoglossal nerve is unique in that it is supplied by both hemispheres' motor cortices.

CONCLUSION

Damage to the nerve may result in fasciculations or wasting (atrophy) of the tongue muscles. This will result in a decrease in tongue movement on that side. When the tongue is damaged and extended, it will move to the weaker or damaged side. The fasciculations of the tongue are sometimes described as

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resembling a “bag of worms.” Damage to the nerve tract or nucleus will result in weakness of the muscles on the same side as the damage, rather than atrophy or fasciculations.

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CONFLICT OF INTEREST

The author’s declared that they have no conflict of interest