NAME: AKINLOLU ANTHONIA AYOMIDE

DEPT: NURSING

MATRIC NO: 18/MHS02/031

COURSE TITLE: PHYSIOLOGY

COURSE CODE: PHS 212

ASSIGNMENT

Discuss the somatosensory pathways

Third order neurons are in the subcortical areas. Fibers of these neurons carry the sensory impulses from subcortical areas to cerebral cortex.

1. ANTERIOR SPINOTHALMIC TRACT

Anterior spinothalmic tract is formed by the fibers of second order neurons of the pathway for crude touch sensation

Function

Anterior spinothalmic tract carries impulses of crude touch sensation

Effect of lesion

Bilateral lesion of this tract leads to loss of crude touch sensation and loss of sensations like itching and tickling. Unilateral lesion of this tract causes loss of crude touch sensation in opposite side below the level of lesion(because fibers of this tract cross to the opposite side in spinal cord).

1. LATERAL SPINOTHALMIC TRACT

lateral spinothalmic tract is formed by the fibers from second order neurons of the pathway for the sensations of pain and temperature

1. VENTRAL SPINOCEREBELLAR TRACT

Ventral spinocerebellar tract is also known as gower tract, indirect spinocerebellar tract or anterior spino-cerebellar tract. It is constituted by the fibers of second order neurons of the pathway for subconscious kinesthetic sensation.

1. DORSAL SPINOCEREBELLAR TRACT

Dorsal spinocerebellar tract is otherwise called flech-sig tract, direct spinocerebellar tract. Like the ventral spinocerebellar tract, this tract is also constituted by the second order neuron fibers of the pathway for subconscious kinaesthetic sensation. The first order neurons are in the posterior order neurons are in the posterior nerve root ganglia. But the fibers of this tract are uncrossed.

1. SPINOTECTAL TRACT

Spinotectal tract is considered as a component of anterior spinothalmic tract. It is constituted by the fibers of second order neurons.

1. FASCICULUS DORSOLATERALIS

Fasciculus dorsolateralis is otherwise called tract of lissauer. It is considered as a component of lateral spinothalmic tract. And, it is constituted by the fibers of first order neurons.

1. SPINORETICULAR TRACT

Spinoreticular tract is formed by the fibers of second order neurons.

1. SPINO-OLIVARY TRACT

Spino-olivary tract is situated in anterolateral part of white column. Origin of the fibers of this tract is not specific. However, the fibers terminate in olivary nucleus of medulla oblongata. From here, the neurons project into cerebellum. This tract is concerned with proprioception.

1. SPINOVESTIBULAR TRACT

Spinovestibular tract is situated in the lateral white column of the spinal cord. Fibres of this tract arise from spinal cord all the segments of spinal cord and terminate on the lateral vestibular nucleus. This tract is also concerned with proprioreception.

1. FASCICULUS GRACILIS(TRACT OF GOLI) AND
2. FASCICULUS CUNEATUS (TRACT OF BURDACH)

Fasciculus gracillis and fasciculus cuneatus are together called ascending posterior posterior column tracts. These tracts are formed by the fibers from posterior root ganglia. Thus, both the tracts are constituted by the fibers of first order neurons of sensory pathway.

1. COMMA TRACT OF SCHULTZE

Comma tract of schultze is also called fasciculus interfascicularis. It is situated in between tracts of goll and burdach. The tract is formed by the short descending fibers, arising from the medial division of posterior nerve root. These fibers are also considered as the descending branches of the tracts of goll and burdach. Function of this tract is to establish intersegmental communications and to form short reflex arc.