MAILAFIA MIRIAM NANA

NURSING

18/MHS02/109

PHS 212

Somatosensory pathways; Somatosensory refers to bodily sensations to touch, pain, temperature, vibration and proprioception (limb conveys proprioception).

There are two main somatosensory pathways;

* Main somatosensory pathways: the posterior column-medial lemniscal pathway anterolateral or ventrolateral pathways, include the spinothalamic tract and other associated tracts, convey pain, temperature sense and crude touch. Since some aspects of touch sensations are carried by pathways, touch sensations are not eliminated completely in isolated lesions to either pathway. The main somatosensory pathways that communicate with the cerebellum are the ventral or anterior and dorsal or posterior spinocerebellar tracts.

 There are 4 types sensory neuron fibres which are classified according to axon diameter. These different fiber types have specialized peripheral receptors that sub serve different sensory modalities. From largest to smallest diameter and velocity conduction. They are called A-alpha, A-beta, A-gamma and unmyelinated C’s.

* Posterior column-medial lemniscal pathway: large diameter myelinated axons carrying information about proprioception, vibration and fine touch enter the ipsilateral posterior columns to ascend all the way to the way to the posterior column in the medulla. The most medial posterior is called the fasciclus gracilis called which carries sensory information from the legs and lower trunk. The more lateral fasciculus cuneatus carries information from the trunk above about T6 and from the arms and neck
* Spinothalamic tract & other anterolateral pathways: smaller diameter and unmyelinated axons carry information about pain and temperature sense also enter the spinal cord via dorsal root entry zone. However, in contrast to the posterior columns, these axons make their first synapses immediately in the gray matter of the spinal.