C FIBER STIMULATION

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Peripheral nerve fibers and their respective neurons are classified A-C according to axonal diameter. In contrast with A and B fibers, C fibers have the smallest diameter (.4mm to 1.3mm), conduction (.5-2.3m/sec) and are unmyelinated.

The two types of C fibers are Dorsal root and Sympathetic.

1. Dorsal root fibers serve the modality of pain, warm and cold temperature, and touch.

2. The sympathetic type involves postganglionic sympathetic fibers.

The pain produced by C fibers is characterized as dull, often poorly localized and slower onset.

The majority of nociceptive input to the CNS is carried my C fibers. Somatic C fibers terminate principally within lamina 2 (substantia gelatinosa)

Visceral nociceptive C fibers from the esophagus, larynx, and trachea travel with the vagus nerve to enter the nucleus solitarius in the brainstem

Some unmyelinated afferent (C) fibers have been shown to enter the spinal cord via the ventral (motor) root, accounting for observations that some patients continue to feel pain even after transaction of the dorsal root (rhizotomy) and report pain after ventral root stimulation.

Both opioid and alpha 2 adrenergic receptors have been described on or near the terminals of unmyelinated peripheral nerves. Although their physiologic role is not clear, the latter may explain the observed analgesia of peripherally applied opioids, particularly in the presence of inflammation.

Reference: