

Clinica-Medical Image

Neuroma

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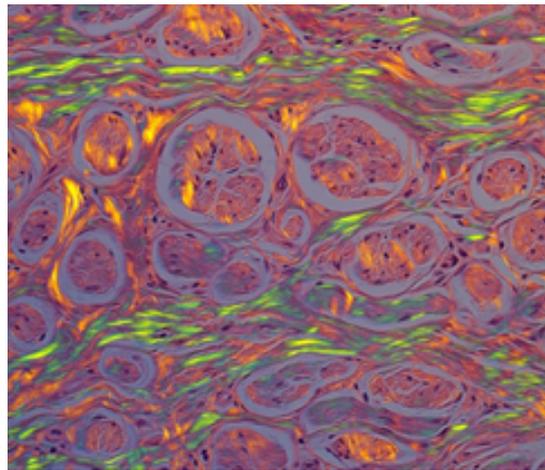


Figure 1: Microscopic view of peripheral nerves.

Keywords:

Celiac artery; Lesion; Retro peritoneum

Clinical Image

Peripheral nerves are the conduits of communication between the central nervous system (the brain and spinal cord) and the rest of the body. These nerves carry instructions from the central nervous system out to the body tissues, such as directing muscles to initiate movement and bring information from the body tissues back to the central nervous system, such as recognizing the sensation of touch or temperature. Peripheral nerves are composed of a central nerve axon and its surrounding supportive cells, which include the Schwann cells that make myelin, as well as perineurial cells, fibroblasts and dendritic cells. The information is passed between nerves and target tissues through the release of neurotransmitters. The myelin produced by Schwann cells serves as an insulating layer that aids in the swift conduction of the electrical potentials down the axons. However, after an injury such as trauma or surgery, nerve fibers may become disorganized as the nerve attempts to regenerate. This benign, non-neoplastic and disordered proliferation of a peripheral nerve is called a neuroma. These traumatic neuromas are small, painful or tender nodules that arise immediately adjacent to an injured nerve. Microscopically, they consist of jumbled masses of nerve bundles embedded in scar tissue and collagen. Under polarized light, both the collagen fibrils as well as the myelin are birefringent and appear shiny yellow or green. The polarized light helps illustrate the many directions in which the collagen fibers and nerve fibers are running. This disarray leads to ineffective nerve conduction at the site of injury and repair (x400 Polarized microscopy) (Figure 1).

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