

## Nerve fibers in human lymphatic vessels

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Studies on lymphatic vessels in various organs have been carried out both from a structural than a functional point of view. Data, although scarce, could be found in past works concerning neurotransmission in lymphatic vessels. Knowledge of the physiologic and/or pathological mechanisms which regulate the functions within the lymphatic system is still scarce and consequently certain pathological alterations, with a probable morphological base, may be clinically misinterpreted as functional disorders. However, in recent years, there is a growing interest about morphological and functional relations between nerve fibers, lymphatic vessels and lymphoid organs. Actually, increasing evidences have been published regarding this topic. In fact, many papers include descriptions, in some case, of morphological and/or functional interrelations between nerve fibers and structures of the lymphatic system in various organs such as monkey bladder, human lymph nodes, dog thoracic duct, rat skin, Peyer's plaques from cat ileum, guinea pig intestine, sheep mesenteric lymphatic vessels, rat femoral lymphatic vessels etc.

Extension of documentation on morphological functions relative to the mechanisms of nerve control in the lymphatic system seems increasingly auspicious to clarify the structural aspects that are at the base of the physiology and/or pathology of the lymphatic circulation.

The aim of this study is to identify the location and the nature of nerve fibres and nervous receptors of the human lymphatic vessels and to analyse the characteristics of these nerve fibres, using traditional histo-chemical techniques, fluorescent microscopy and immune-bound investigating techniques. Lymphatic vessels were isolated from human healthy tissues next to traumatic or pathologic lesions during general surgery, after obtained patients informed consensus. The lymphatic vessels fragments were analysed according to the procedures used for the staining of total, sympathetic, and parasympathetic nerve fibres. Our results demonstrated that both human lymphatic organs and lymphatic vessels are richly provided with all types of nerve fibres.