

M. V. Lupyr, D.N. Sheyan

NERVE FIBERS STAINING METHOD

Kharkiv national medical university (Human anatomy department)

Kharkov, Ukraine

Aim of the research: to develop newer and more acceptable in current neuromorphology method of staining and preparation of histological specimens of nervous system.

The useful model is aimed at the extension staining methods of histological specimens of nerve fibers.

This task, which the useful model is based on, is solved by the fact that in the known method of nerve fibers staining of histological specimen which includes employment of haematoxylin, according to the useful model, nerve fibers of histological specimen are stained by non-aluminous acetic haematoxylin with further differentiation by picrofuchsin.

Object and methods of research: the study was carried out using 28 specimen of peripheral nervous system fragments, taken at different levels out of human corpses of different age groups. The present research employed macromicroscopic, morphometric, histological methods of research and methods of statistical analysis.

Research results and their discussion: Histological specimen has been stained by non-aluminous acetic haematoxylin for 1,5-2 hours in thermostat at 56°C.

Non-aluminous acetic haematoxylin consists of: 10% alcohol solution of haematoxylin – 10 ml, distilled water – 90 ml, acetic acid (glacial) – 2 ml.

It has been washed out in 2 or 3 portions of tapwater for 20-30 minutes; differentiated by picrofuchsin for 30-40 minutes in thermostat at 56°C.

Picrofuchsin contents: 1% water solution of acid fuchsin – 10 ml, saturated water solution of picric acid – 100 ml.

It has been washed in tapwater for 3-5 minutes; quickly put through spirits, stained by picric acid; refined by carbol xylol, washed by xylol and put into the solution of polystyrene in xylol and covered with coverslip.

Myelin sheath of nerve fibers have stained into bluish-black color, muscle tissue has gained deep red-brown color, the color of connective tissue has varied from pink to bright-red. Blood and lymph vessel membranes from *intima* to *externa* have been clearly differentiated by color, erythrocytes have taken brown stain. Epineurium, perineurium and endoneurium of peripheral nerves have been clearly differentiated. Non-myelin nerve fibers of autonomic innervation have been clearly contoured both in neurovascular bundles and within proximal tissue.

Conclusion.

1. The present research allowed to receive “Patent on useful model” № 65245 «Nerve fibres staining method»
2. The presented method of histological staining of nerve fibers is employed in a number of scientific studies at Kharkiv national medical university.
3. The developed method of histological staining of nerve fibers can be widely used in relation to any structures of the nervous system.
4. The present method of histological staining of nerve fibers is the most efficient, potent, simple and it doesn't require much time consumption or financing facility.

Prospects for further research: results, obtained during employment of this method of nerve fibers staining will be used when performing a number of scientific studies at Kharkiv national medical university.

Reference list.

1. / B. Romeys; [translated from German by V. Aleksandrov]. – Moscow: Foreign literature publishing house, 1953.-718 p; (in Russian)
2. G.A. Merkulov. A course in pathohistological technique / G. A. Merkulov – Leningrad: Medicine, 1969. -423p.). (in Russian)