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MICROSURGERY AS A NEW STEP IN THE DEVELOPMENT OF MODERN MEDICINE

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In the course of the evolution the humanity struggled for survival with diseases, relying on sorcery, witchcraft and medicine. The development of medicine has allowed to overcome many human diseases, but there was a number of serious diseases found, which were very difficult to treat. The desire to learn how to treat them efficiently and quickly has led to the emergence of a new branch of surgery that deals with microstructures of the body not visible to the naked eye. This science was called microsurgery.

Microsurgery is a new step in the development of modern medicine. With the help of it you can treat earlier incurable diseases and difficult continued operations are carried out much faster and more efficiently. For example, amputated limbs can be put in place maintaining their functionality, pathological defects in blood vessels and nerves may be eliminated. The practical tasks, which previously baffled doctors around the world are now solved in a short time in the operating room by microsurgeons. Additional convenience of this technique of treatment is that a patient does not spend a single day in the hospital, because the damage during such operation is minimal and a patient comes only to visit his doctor.

For successful application of microsurgical techniques, the doctors need new special tools, which are very small: tiny video camera for microscope, micro-tools, special suture material etc.

 Modern microscopes provide a high-quality image of a surgical field and the degree of optical magnification is changed automatically. Many plug-in modules make microscope indispensable for any microsurgical operations and allow you to make high quality video recording.

Surgical instruments may also have a different functionality. It may be different types of scalpels (micro-scalpels, diamond scalpels), microsurgical scissors, tweezers to hold the tissue and tying threads, hooks, retractors, micro stands for needles and blades.

A special suture material for incision stitching is used: a suture of 16 – 25 microns, a special atraumatic needle with the thickness not exceeding 130 micrometers. For stitching of small vessels plating suture is used, the tip of which is covered with the metal forming the needle.

A wide variety of microsurgical instruments allows physicians to perform complex operations to restore blood vessels and nerves.

Of course, the mentioned above application of microsurgery does not show its all potential. Microsurgery works not only with the diseases of vessels, nerves, but with transplantation, plastic surgery, removal of tumors. Microsurgery is widely used in gynecology for the treatment of infertility, scar removal, cysts; in otolaryngology – for prosthesis of ossicles, treatment of otosclerosis, correction of the external auditory meatus; in ophthalmology – for plastic surgery on the iris and ciliary body; in urology and neurology.

In consideration of the foregoing premises we may conclude that microsurgery takes a stronger position in medicine and extends its influence for almost all its fields. However, in practice microsurgery is not at the end of its resource for development, what makes it one of the most important and promising branches of medicine of the third millennium.

References:

1. Геворков А.Р., Мартиросян Н.Л., Дыдыкин С.С., Элиава Ш.Ш. Основы микрохирургии. – М.: ГЭОТАР-Медиа, 2009. – 96 с.
2. Уход за больными: учебник / кол. авторов; под ред. О.Н. Ковалевой, В.Н. Лесового, Р.С. Шевченко, Т.В. Фроловой. – К.: ВСИ «Медицина», 2014. – 432 с.