Konstanchuk Y. D.

HEAD TRANSPLANTATION

Scientific Supervisor Senior Teacher Sayanova G.I.
Department of Foreign Languages
Belarusian State Medical University, Minsk

Transplantation is the section of medicine dealing with the problem of organ and tissue transfer from one body to another. For example, we can mention the kidney, liver, heart, bone marrow, skin transplantation.

A Soviet scientist Vladimir Demikhov (1916-1998) is considered to be the founder of the world transplantation. He was scientifically interested in biology, physiology and surgery. In 1937 being a third-year student of Moscow State University, he designed the first artificial heart and implanted it to the dog.

Professor Sergio Canavero reported about the first monkey head transplantation. The scientist managed to connect the circulatory systems of the head and the new body, but the spinal cord was still damaged. To prevent the death of brain cells, the head was cooled to 16 degrees Celsius. After the operation the monkey lived about 20 hours and was put to sleep. This wasn't the first transplantation of the animal's head. In 1954, the Soviet surgeon Vladimir Demikhov, who had created two-headed dogs, conducted cognate experiments. However, he sewed only the circulatory system and didn't touch the spinal cord.

Sergio Canavero was the first who offered to perform a human head transplantation in 2013. He wanted to use the surgery to extend the lives of people whose nerves and muscles have deteriorated or whose organs are infected with cancer. But there are many problems, such as fusing the spinal cord and preventing the body's immune system from repudiating of the head.

The procedure will be conducted with the help of cooling both the head and the body to extend the time their cells can survive without oxygen. The tissue around the neck would be dissected and the most important blood vessels linked using tiny tubes, before the spinal cords of each person are cut.

The head would be moved onto the donor body, and the ends of their spinal cords fused together using PEG. Then the muscles and blood supply would be sutured. The recipient would be kept in a coma for 3-4 weeks to prevent movement. Implanted electrodes would be used to support stated electrical stimulation to the spinal cord, because research proposes this can strengthen new nerve connections.

Canavero is still thinking about the possibility of performing the first human head transplantation at the end of December of 2017, depending upon finding a better donor. Some people have said they would like to have their heads sewn to different bodies. A hospital in Vietnam wants to host the first surgery.

The loss of a loved one is always a great disaster. Perhaps the realization that your close person will save someone's life is a little consolation for you. You will always know that a part of him still remains in this world.