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SOVIET EXPERIMENTS ON TRANSPLANTATION OF VITAL ORGANS

[The following information is taken from an article by Dr V. Demikhov, chief of the Laboratory for Transplantation of Organs and Tissues of the Institute of Surgery, Academy of Medical Sciences USSR, published by Ny Dag, Stockholm Communist newspaper, 25 September 1954. The article discusses recent achievements of Soviet scientists in the field of transplantation of organs and tissues from one animal to another.]

Prof N. Simitsyn has transplanted a heart from one frog to another with completely satisfactory results. Rabbit ovaries have been transplanted, and the does with transplanted ovaries bore young normally. P. Masayev and P. Chepov have attained significant results in getting amputated dog paws to grow onto the stumps again. At present, experiments are in progress on transplanting a leg from one dog to another. Success has also been attained in reattaching severed parts of rabbits, rats, guinea pigs, sheep, and goats. Prof V. Filatov and his students transplant human corneas; up to now, they have saved the sight of more than 5,000 people.

Experiments are being performed in interchanging vital organs between dogs. Success has been attained in transplanting an extra heart into a dog. A section of the dog's lungs was removed and the heart of another dog was placed beside the dog's own heart. The extra heart took over half the work of circulating the blood. Although dogs survive this serious operation relatively easily and afterwards have completely normal reactions, up to now, it has not been possible to keep the dogs with two hearts alive for more than 2 1/2 months after the operation.

A number of experiments have been performed on replacing a dog's own heart and lungs with those of another. In this operation, the new organs are first transplanted, and then the old ones are removed; thus, the blood circulation is not stopped even for an instant. The entire operation takes 25-30 minutes, exclusive of the time required to open and close the chest cavity. A dog on which this operation has been performed awakens the day after and evidences normal functions. Recently, a method has been worked out to replace the heart, but not the lungs, and vice versa. This is technically more difficult, however. Experiments are also being performed on replacement of the kidneys, the pancreas, etc.

Professor Kosyakov is doing research on the very important question of the organism's effect on transplanted tissues and on the possibility of eliminating harmful reactions in connection therewith. He has found that tissues can be grouped in the same way as blood. Consequently, this must be taken into consideration in the transplantation of tissues and organs.

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