

SURGERY

Transplant From Dead

A successful kidney transplant, from a dead man to an unrelated living man, brings surgeons closer to realizing their dream of organ transplants—By Faye Marley

► THE SURGEON'S DREAM of transplanting organs from the dead to the living seems closer to reality.

A man aged 54 died at Leeds (England) General Infirmary. One of his kidneys was removed quickly and placed in a 37-year-old man gravely ill because his kidneys had failed.

Four months later the borrowed kidney was still functioning and the doctors were somewhat elated. For the donor and the recipient were unrelated. Nearly all transplants that have approached success in the past have been between identical twins.

Reporting in the British Medical Journal, April 6, 1963, the physicians, Drs. F. M. Parsons, C. Markland, F. P. Raper and M. Fox, warn that a slow rejection of the implanted kidney could occur with consequent failure.

Before cadaver transplants can become practical, improvement in overcoming rejections will be necessary, they said. Cyclophosphamid—trade name Cytosan in the United States—which they used to lower the immunological response, may have some advantage over total body irradiation and other drugs sometimes used.

This patient was given irradiation only

to the spleen and kidney area before the operation, and was isolated in a new research ward using a triple-barrier area and positive-pressure ventilation to prevent infection.

Kidney transplants from living donors, in most cases from identical twins, have been performed successfully in the United States, Canada, France and Great Britain, but kidneys have been rejected nearly always when donated by unrelated persons. Even the success of transplanting the kidney of a non-identical twin in 1960 in Boston was hailed as medical history.

Cadaver transplants pose problems such as availability and suitability of the donated kidney. But in the absence of relatives and the frequent uselessness of donating a healthy kidney by a living person, the researchers believe that cadaver organs can play a part in transplantation research that may lead to practical use.

In addition to the successful case, another similar transplantation that resulted in the death of the patient within six weeks was reported.

A U.S. Public Health Service grant aided the research.

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Clement L. Markert

THREE-EYED FROG—*The third eye was grafted as unrecognizable eye tissue onto the right side of a frog when it was just an embryo by Dr. Clement Markert. The eye responds to light, but whether the frog can see with it is not known.*

BIOCHEMISTRY

DNA Understanding May Explain Defects, Cancer

► SOME LIFE problems of great practical importance to mankind, including congenital defects, cancer and aging, will be closer to solution when scientists find out more about DNA, deoxyribonucleic acid, and the role that it plays in heredity and the functioning of cells.

This was predicted by Dr. Clement L. Markert, Johns Hopkins biology professor, during the celebration of the 50th anniversary of the Carnegie Institution of Washington's department of embryology, located on the Johns Hopkins Homewood campus in Baltimore.

We must discover "what turns genes (bearers of heredity) on and off," Dr. Markert said. Both biochemists and geneticists are joining in finding the time and place at which various parts of nucleic acid operate to control the functioning of cells and the process of heredity of man and animals.

In the last half century, experimenters have unfolded the story of the growth and development of the unborn child and other animals. Much of this work was done at the Carnegie Laboratory, founded in 1913 as the result of ideas of Dr. Franklin P. Mall, director until his death in 1917. Heads of the research since then have been Dr. George L. Streeter, Dr. George W. Corner and Dr. James D. Ebert, present director.

Anatomists from all parts of the world attended the diamond jubilee meeting in Washington, D. C., of the American Association of Anatomists and the Carnegie observance.

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PHYSICS

Dr. Oppenheimer Honored

► DR. J. ROBERT OPPENHEIMER, renowned theoretical physicist and director of the Institute for Advanced Study, Princeton, N. J., has been named to receive the Enrico Fermi Award for 1963 by the Atomic Energy Commission.

Dr. Oppenheimer, the seventh scientist to receive the Fermi Award, will receive a gold medal, a citation and \$50,000. The award will be presented to Dr. Oppenheimer in December in recognition of his outstanding contributions to theoretical physics and his scientific and administrative leadership not only in the development of the atomic bomb, but also in establishing the groundwork for the many peaceful applications of atomic energy.

The selection of Dr. Oppenheimer for the award was based on the unanimous recommendation of the Commission's statutory General Advisory Committee.

The Atomic Energy Commission suspended the security clearance of Dr. Oppenheimer by a four-to-one vote in 1953. It was a highly controversial decision opposed by many scientists.

Dr. Oppenheimer has made far-ranging and profound contributions to the advancement of theoretical physics. He has played

a unique role in the development of physics in the United States, as a teacher, as an originator of several fundamental concepts, and as the administrator under whose leadership the atomic bomb was successfully developed at Los Alamos Scientific Laboratory during World War II.

His theoretical work has included studies on the separation of different forms of energy in molecules, the interaction of field and matter, positive and negative energy states, the statistics of the many-particle system, field theory, the theory of cosmic ray showers, and elementary particle phenomena. After his wartime service as director of Los Alamos Scientific Laboratory, directing the work that led to the explosion of the first atomic device on July 16, 1945 in Alamogordo, N. Mex., his interests remained strongly oriented toward elementary particle and cosmic ray phenomena, and he continued to contribute to basic physical theory.

Dr. Oppenheimer has been director of the Institute for Advanced Study since 1947. He was chairman of the Commission's General Advisory Committee from 1947 through 1952.

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