



THE UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL SCHOOL AT DALLAS

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DALLAS--A noted researcher and associates at The University of Texas Southwestern Medical School will explore the immunity mechanisms of transplants and pregnancy under a grant which will total nearly \$1 million over a five-year period.

Dr. Rupert E. Billingham, chairman of the Department of Cell Biology at UTSWMS, has been given an initial sum of \$219,805 by the National Institutes of Health Institute of Allergy and Infectious Diseases to pursue the research.

Work will be done on the central question of graft rejection and possible means of overcoming it.

Dr. J. Wayne Streilein, professor of Cell Biology, will concentrate on the aspect of certain types of grafts, such as bone marrow, actually "rejecting" the host, turning upon him to produce a devastating result.

Dr. Billingham and Dr. Alan E. Beer, assistant professor of Cell Biology and of Obstetrics and Gynecology, will investigate the field of immunology in pregnancy.

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"The problem that interests Dr. Beer and I is accounting for the tremendous success of nature's grafts, namely fetuses in mankind," explained Dr. Billingham. Fetuses are foreign grafts in the uterus in the mother by virtue of the fact the fetus inherits from its father some determinants of tissue antigens the mother doesn't have."

Once born, the infant may well not be able to accept a kidney transplant or a skin graft from the mother.

"This presents a great biologic enigma," noted Dr. Billingham, adding that although the placenta forms a barrier across which there is no blood interchange, there is sometimes cell leakage from both sides to the other.

He speculated that in the case of considerable leakage, there may be a link between these mechanisms and a number of unexplained childhood ills, such as lymphomas or tumors.

He said the investigation would encompass all sorts of aspects of human reproduction, including the prospect of birth control or fertility inducement.

Dr. Billingham, former research associate of Nobel Laureate Peter Medawar, currently is chairman of the NIH Transplantation and Immunology Advisory Committee.

There also is a need to determine the value of tissue typing in transplantation, he said. This kind of typing--quite similar to the well-known red blood cell typing--involves white cells and the scores of separate factors they seem to possess; the idea being that more perfect tissue matches would insure less transplant rejection.

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He said there may be a need for an across-the-nation evaluation of this kind of typing.

"Typing could prove to be an interesting crystal ball for counselling certain patients. For some reason, people with certain tissue types for some curious reason, have a greater risk of contracting some diseases than other people."

Additional knowledge about transplantation immunology will open the way for better use of donor grafts in the case of burns, and will break the barrier which has slowed heart and other organ transplantation, he said.

The remainder of the \$932,838 grant will be paid in yearly installments through the spring of 1977.

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