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SCIENTISTS STUDY PREGNANCY  
AS MODEL OF IMMUNITY

DALLAS--Medical scientists at The University of Texas Health Science Center have received an \$86,957 contract to study factors of immunity in pregnancy in hope of finding ways of preventing rejection in organ transplantation.

Dr. Alan E. Beer, associate professor of Cell Biology and Obstetrics and Gynecology, will be studying immunoregulatory mechanisms operating in the blood of pregnant women that are believed to help prevent them from mounting harmful immunologic attacks upon the tissues of their unborn babies.

The question why a mother does not reject her unborn baby is the focus of a considerable amount of research conducted by Dr. Beer and Dr. Billingham, chairman of the Department of Cell Biology, who is co-principal investigator of this latest contract from the National Institutes of Health.

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first add pregnancy immunity

The scientists have found that the uterus is not a privileged site with respect to immunity. Conventional grafts, such as skin, are rejected if they are transplanted to it as 'model' fetuses. By contrast, when alien eggs are transplanted to unconventional sites in the body, such as beneath the capsule of the kidney, they are not rejected. Such observations sustain the conclusion that the placenta, which is part of the fetus, includes an immunologic buffer or protective zone of tissue. However, explained Dr. Beer, this barrier is probably not 100 per cent effective in that lymphocytes from the mother can cross it and initiate harmful immunologic reactions from within the fetus. The investigators have obtained evidence of 'back-up' protective mechanisms, including so-called blocking antibodies, which probably play an important role in ensuring the success of fetuses as grafts. For this reason, scientists almost never hear of a mother "rejecting" her fetus, as people sometimes reject their donor kidney or heart transplants.

"If we could learn more about the mechanism that ensures the consistent success of fetuses as alien grafts, we might be able to apply the principle to organ transplants in man", explained Dr. Beer.

The contract, sponsored by the Transplantation and Immunology Branch of the National Institute of Allergy and Infectious Disease, can be renewed up to five years.

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