

AN ANIMAL MODEL OF UTERINE AUTO AND ALLO –TRANSPLANTATION
WITH SUCCESSFUL PREGNANCY

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Purpose: The purpose of this project is three-fold: (1) to investigate an animal model of uterine transplantation after ovarian vessel ligation and uterine vessel reanastomosis (2) to determine the rates of "successful" uterine transplant, with endpoint of delivery of a viable pregnancy and (3) to evaluate the role of omentopexy as a source of neovascularization for the transplanted uterus (dogs).

Methods: Our research project explores feasibility of uterine transplantation by comparing avascular and vascular uterine transplantations and by exploring the impact of immunosuppressive therapy on fertility. Our endpoint is delivery of a viable live born from the transplanted organ. As we develop surgical methods and techniques, pathological assessment of vascularity, and tissue rejection will be quantified.

Results: Based on other published results, we projected a survival rate of 70- 80%, death rate of 0-20%, and a pregnancy rate of 20-30%. Our preliminary results were comparable to the above with the exception of higher mortality in pigs. Animals that died underwent complete necropsy with sampling of tissue to document presence and extent of neovascularization and/or tissue rejection. After four to six months of documented infertility, exploratory laparotomies procured tissue samples for histopathologic studies.

Conclusion: By exploring the different alternatives for fertility such as in vitro fertilization, gamete intrafallopian tube transfer, intracytoplasmic sperm injection and surrogacy, the uterine transplant may be considered another alternative for infertility.

Key words: Animal model; Transplantation; Non-vascular; Vascular; Cryopreservation; Cyclosporine; Embryo transfer; Pregnancy

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