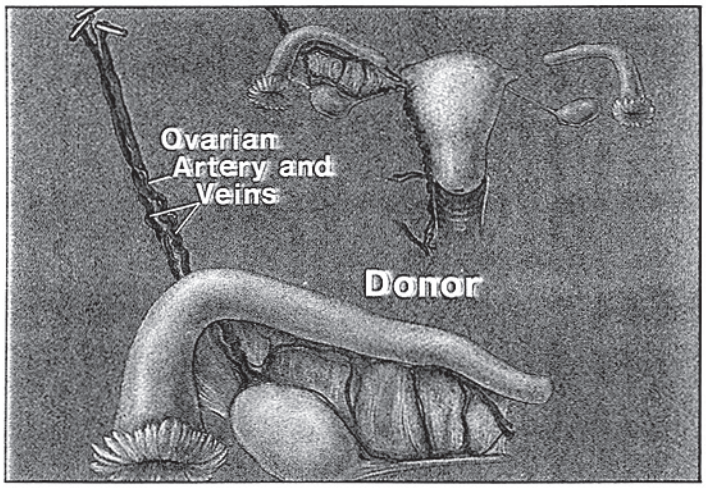
First Fallopian Tube-Ovary Transplant Is Carried Out

Procedure reversed tubal ligation in the donor sister, freeing up a tube and ovary for transplantation into her twin.

In a recent, dramatic display of state-of-the-art microsurgical technique, a fallopian tube and ovary from a previously sterilized woman were successfully transplanted into the donor's identical twin, it was reported at the American College of Surgeons meeting in October.

The recipient had been rendered sterile by very severe pelvic inflammatory disease,which had destroyed both of her tubes and ovaries. Her sister had had a tubal ligation after having three children. Subsequently she was divorced and remarried, and was again interested in becoming pregnant.



The surgeon, Sherman J. Silber MD of St. Louis, a pioneer in reproductive microsurgery, first re-anastomosed the occluded tube to the uterine cornu of the sterilized sister on one side—leaving her fertile on the left side—and then removed the tube and ovary from the right side for transplantation.

"There was no adequate recipient artery because the pelvis was so scarred," Dr. Silber said in an interview with TRENDS. "So we anastomosed the artery of the donor fallopian

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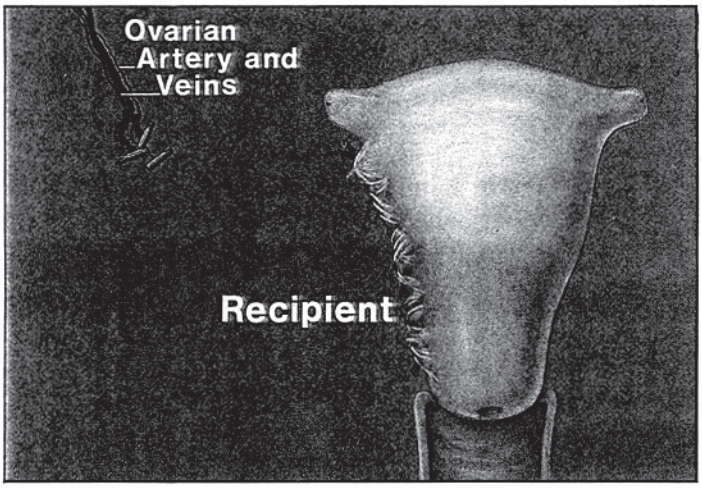
Highlights of the transplant procedure. Dr. Silber explains: "In the first photo, we are freeing up a small pelvic vein on the recipient to be anastomosed in the ovarian donor. (2) Here we are freeing up a tiny intestinal artery in the recipient to be used for microanastomosis to the donor ovarian artery. (3) Transferring the donor ovary and fallopian tube to a basin prior to transplantation . . . Here the recipient intestinal artery (4)

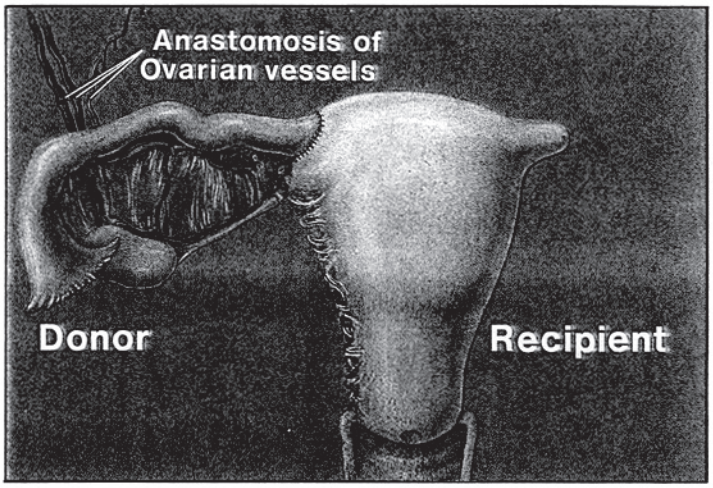
tube and ovary to a small intestinal artery—a distal ileal artery—of the recipient. Without this innovation there would have been no arterial supply for the transplanted tube and ovary.

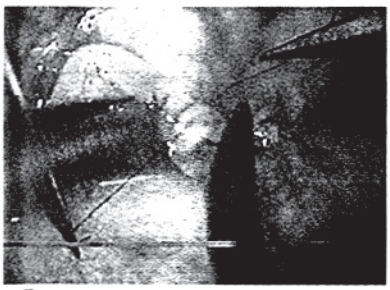
"Then we anastomosed the vein, which was much easier, to other veins in the pelvis. When we were done, the recipient had a well-vascularized tube and ovary."

The donor became pregnant two months following the operation. The recipient is now producing estrogen, Dr. Silber reports, and is menstruating regularly. He expects she will start ovulating in about six to eight months.

"This time course parallels the CONTINUED ON PAGE 9







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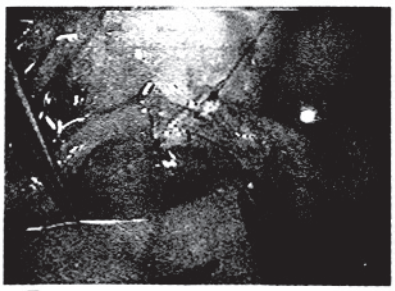

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on the right side is lined up with donor artery on the left side in preparation for microanastomosis (20X magnification). The next three photographs (5-7) show the steps in the anastomosis of the intestinal artery to the ovarian artery (20X magnification). Finally (8), we have a healthy-looking donor ovary and fallopian tube." (All photos made from 10-minute videotape of the procedure.)

First Tube-Ovary Transplant

CONTINUED FROM PAGE 3

testicle transplant case we did in 1977, the first such transplant performed, in which there was production of hormone following the transplant, but not enough sperm to result in pregnancy until about a year and a half later," Dr. Silber, who is with St. Luke's Hospital West, observed.

Three more cases of tube-ovary transplant are scheduled, all in identical twins: "We are limiting this early work to identical twins to avoid having to give immunosuppressive drugs. Immunosuppression is safer than it was five years ago, with the development of cyclosporine, but we still hesitate to risk the possible side-effects in a non-life-saving procedure," he explained, adding that the experience with kidney transplant patients indicates that immunosuppression is not a bar to normal pregnancy.

For Dr. Silber, who also developed the procedure for and performed the first microsurgical vasectomy reversal in 1975, the fallopian tube-ovary transplant symbolizes how far the field of reproductive microsurgery has come. "This was really the most difficult reproductive microsurgical procedure in that it combined some of the techniques that are used for simpler cases of tubal blockage in women and epididymal blockage in men," he said. "This transplant culminates all the advances in microsurgery we can now use to help both men and women with problems that are not quite as serious but are much more common.

"Five years down the road I see fallopian tube-ovary transplants being a viable alternative for the many women who have this problem but don't have an identical twin sister. Since identical twins occur in only about one in a thousand births, the number of women who could benefit from this procedure would increase a thousandfold," he stated.

Dr. Silber is the author of a textbook recently published by Williams and Wilkins entitled *Reproductive Infertility and Microsurgery in the Male and Female*. □

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