

Rare transplant allows young woman to forgo 60 pills daily

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Surgeons at the University of Illinois Hospital & Health Sciences System performed a rare living-donor parathyroid gland transplant to help a 22-year-old woman maintain normal calcium levels without the need for high-dose supplementation.

Ashley Slussar, of Joliet, Ill., had all of her parathyroid glands removed in 2006 because they had grown large and were overproducing [parathyroid hormone](#). The hyperparathyroidism was caused by years of kidney disease and dialysis, which she needed to survive.

As a result of having no parathyroid glands, she required 60 calcium pills a day to maintain normal calcium blood levels. Without the supplements, she could suffer life-threatening complications.

Slussar was first diagnosed with kidney disease when she was 12 years old. She had received two living-donor kidney transplants, one in 2003 from her mother and the other in 2006 from her sister.

Slussar's parathyroid glands were removed following the first kidney [transplant](#). The parathyroid glands (located in the neck behind the thyroid) regulate calcium levels in the blood. Slussar's parathyroid glands were overactive and needed to be removed to prevent dangerously high calcium and diffuse bone destruction.

UIC surgeons began brainstorming how to help Slussar with a parathyroid transplant.

Dr. Enrico Benedetti, chief of surgery at the University of Illinois Hospital, had read in the medical literature about the first successful parathyroid transplant, performed in 1984. But the patient and donor in that case were identical twins.

Slussar did not have an identical twin, but Benedetti believed that her sister, who had already donated her kidney, was Ashley's best hope.

"Ashley was already taking anti-rejection medication after receiving her sister's kidney, and we believed that transplanting one parathyroid gland would produce enough parathyroid hormone to help regulate her [calcium levels](#)," said Benedetti, the Warren H. Cole Chair in Surgery at UIC.

A surgical team led by Dr. Pier Cristoforo Giulianotti, chief of minimally invasive, general and robotic surgery at the hospital, used the robotic-assisted da Vinci Surgical System to delicately remove one of Kimberly Slussar's four tiny parathyroid glands.

Traditional surgery to remove the [parathyroid glands](#), or the larger thyroid gland, involves making a 1- to 4-inch incision in the lower neck, leaving a noticeable scar after surgery.

Instead, Giulianotti made one small incision under her sister's right arm to accommodate the robotic arms and endoscopic camera. One parathyroid gland was removed from Kimberly and transplanted into Ashley last September.

This transplant procedure may be relevant for a only small number of patients, but the robotic-assisted parathyroidectomy and thyroidectomy procedures "are valuable for the vast majority of patients who want to avoid a neck incision for cosmetic reasons," said Giulianotti, the Lloyd M. Nyhus Professor of Surgery at UIC.

For Kimberly, the robotic donor operation made the procedure more acceptable, since she would not have a visible scar in her neck.

Ashley is now being weaned from calcium supplements -- she's down to 10 pills daily -- and will soon require no supplementation. Her parathyroid hormone levels are now within normal limits.

"I'm very happy that I could help Ashley -- twice," said Kimberly, who finds it difficult to imagine everything her sister has gone through in the past 10 years.

"I would do it again to help her live a more normal life without dialysis and without having to take all those pills each day."

Provided by University of Illinois at Chicago

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