# Robotic Kidney Transplantation New Option for Obese Patients

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(PhysOrg.com) -- Surgeons at the University of Illinois at Chicago report the first successful robotic kidney transplant in a morbidly obese patient.

The case study appears online in the American Journal of Transplantation.

The patient, a 29-year-old woman with a body mass index of 41, had been on dialysis for five years while waiting for a deceased donor kidney . The donor kidney functioned immediately after transplantation with no postoperative complications.

To date, the procedure has been done successfully in six additional patients at the University of Illinois Medical Center at Chicago.

Morbidly obese patients -- those with a body mass index greater than 40 -- are at high risk of developing wound infections following kidney transplantation, due to the longer length of the incision, according to the authors.

Some transplant centers may avoid listing morbidly obese patients for kidney transplantation due to the increased risks associated with surgery, graft survival and patient safety, says Dr. Enrico Benedetti, the Warren H. Cole Chair and head of surgery at UIC and senior author of the article. "The majority of patients needing kidney transplantation are overweight or obese, and this procedure offers what we believe is a safer, minimally invasive procedure with fewer complications."

In a traditional "open" kidney transplant procedure, a six- to eight-inch incision is made in the right lower abdomen to implant the donor kidney. The UIC surgical team used the da Vinci Robotic Surgical System to transplant the kidney through a 2 3/4-inch incision above the patient's belly button, and four tiny incisions in the abdomen to accommodate the robotic laparoscopic instruments.

Robotic surgery for morbidly obese patients can be accomplished safely and allows minimally invasive access without the visual and technical limitations of laparoscopic surgery, said Dr. Pier Cristoforo Giulianotti, Lloyd M. Nyhus Professor of Surgery at UIC and first author of the article.

Current laparoscopic cameras provide only a two-dimensional view and laparoscopic instruments have a limited degree of freedom, according to the authors. In contrast, robotic surgery provides a three-dimensional view and utilizes instruments with 360-degree range of motion, allowing surgeons to complete more complex procedures.

"The benefits to the patient are reduced surgical trauma, reduced risk for wound complications, and improved patient survival," said Giulianotti.

Previous research has shown that patients who remain on dialysis have a greater risk of mortality than patients who receive a kidney, said Dr. José Oberholzer, chief of transplantation surgery at UIC and corresponding author of the study.

"We frequently evaluate obese patients who have been refused kidney transplantation at other centers. Obesity markedly increases the risk of wound infection, which lowers graft and patient survival," said Oberholzer. "However, we know that the benefits of transplantation outweigh the risks in this patient population. Transplantation in obese patients provides a clear survival advantage over dialysis and an

improved quality of life."

Provided by University of Illinois at Chicago