

Kidney transplant patients live longer than those in intensive home hemodialysis

May 22 2014



This is Co-Director of the Kidney Transplant Program, Toronto General Hospital, University Health Network. Credit: Anthony Tuccitto

A first-ever study from a large Canadian centre found that kidney transplant recipients lived longer and had better treatment success than patients on intensive home hemodialysis, but also had an increased risk of being hospitalized within the first year.

These findings were reported in a study entitled, "Survival and hospitalization for intensive home hemodialysis and kidney transplantation", by lead author Dr. Karthik Tennankore, nephrologist at Dalhousie University, and Drs. Chris Chan and Joseph Kim, nephrologists at Toronto General Hospital, University Health Network. The study was published online on May 22, 2014 in the *Journal of the American Society of Nephrology (JASN)*.

The research reaffirms the need to encourage patients receiving intensive home hemodialysis to pursue kidney transplantation as a definitive treatment option for end-stage kidney disease. However, the study also found that the outcomes for these specific [dialysis](#) patients were generally positive, especially when compared to patients on in-centre hemodialysis (intensive home hemodialysis patient survival was 94% and 80% at one and five years).

"For patients with end-stage kidney disease, a [kidney transplant](#) is still the best treatment option," says Dr. Chris Chan, Deputy Director, Division of Nephrology, University Health Network, R. Fraser Elliott Chair in Home Dialysis and Associate Professor of Medicine, University of Toronto. "But not everyone is a candidate for a transplant and we are facing a shortage of organs for these patients. We must continue to study and develop new and better ways to bridge the gap, and that includes developing better dialysis treatments." Dialysis will continue to be an important treatment option for many patients, points out Dr. Karthik Tennankore, Division of Nephrology, Dalhousie University. "This study also tells us that patients who are receiving this type of dialysis still have very good health outcomes."

Due to long waiting times for kidney transplants – up to 10 years in the Greater Toronto Area (GTA) depending on blood type and other factors - the authors note that it is important to identify "bridging therapies" for patients with end-stage kidney disease.

Kidney transplantation remains the gold standard for kidney failure treatment, but intensive home hemodialysis (16 hours or more of treatments a week) is emerging as a [treatment option](#) with many clinical advantages, such as minimal adverse reactions, low rates of hospital admission and hospital stay, and superior outcomes to conventional in-centre dialysis treatment, which is usually given three times a week.

While studies have previously shown that in-centre dialysis does not have the same benefits as a kidney transplant, it is not clear how intensive home hemodialysis compares with [kidney transplantation](#).

This observational study looked at 1,690 patients, comparing 173 patients on intensive home hemodialysis to 1,517 kidney transplant recipients from both deceased and living donors who received their transplants at Toronto General Hospital, University Health Network from 2000 to 2011.

The study found that kidney transplant patients had a 55% to 61% reduced risk of treatment failure or death during the study period when compared to the home hemodialysis patients. The risk of being admitted to the hospital and spending a longer time in the hospital was higher for some kidney [transplant recipients](#) up to a year after transplantation, likely due to surgical complications, infections, acute rejection, and other related issues. However, the risk of hospitalizations was lower for [kidney transplant recipients](#) in the long-term when compared to home hemodialysis [patients](#), with the latter likely related to the development of late-dialysis complications.

At the time of the study, Dr. Karthik Tennankore was the Baxter - University Health Network Home Dialysis Fellow.

More information: The article, entitled "Survival and Hospitalization for Intensive Home Hemodialysis Compared with Kidney

Transplantation," will appear online at jasn.asnjournals.org/ on May 22, 2014.

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Provided by University Health Network

Citation: Kidney transplant patients live longer than those in intensive home hemodialysis (2014, May 22) retrieved 25 April 2024 from <https://medicalxpress.com/news/2014-05-kidney-transplant-patients-longer-intensive.html>

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