MedicalXpress

Study shows steroid therapies following transplant can be eliminated

October 21 2008

A new study by researchers at the University of Cincinnati (UC) shows that using modern immunosuppressive drugs eliminates the need for steroid therapy as early as seven days following a transplant surgery while still maintaining kidney function.

Steve Woodle, MD, chief of UC's transplant surgery division, principal investigator and designer of the study, says the elimination of a daily dose of steroids following transplantation minimizes chronic health conditions common to kidney transplant recipients.

The data—from what is believed to be the longest-running, double-blinded study of its kind in the transplant field—is published in the October issue of the *Annals of Surgery*.

"Steroids have long been the primary source of morbidity and complications following successful kidney transplantation," Woodle says. "This study demonstrates that elimination of even small, daily prednisone (pred-ne-zone) doses does not compromise results while minimizing weight gain, diabetes and bone complications."

Corticosteroids were the first anti-rejection drug used in transplant patients, dating back to the first transplant surgeries over 50 years ago.

Traditionally patients who have undergone organ transplantation have required life-long steroid treatments given in combination with other drugs that help suppress the body's immune system and allow the

transplanted organ to function properly.

However, the steroid treatment—given as the oral drug, prednisone—can cause serious side effects including cardiovascular disease, high cholesterol and blood pressure, weight gain, diabetes, bone weakness and cataracts.

To test the effectiveness of early elimination of steroids, researchers studied 397 patients from 25 U.S. kidney transplant centers for a five-year period following transplant. They administered low doses of prednisone to one group of transplant patients while the other group of patients received a placebo.

The results showed that early steroid elimination caused reduction in many steroid-related complications, even when prednisone was given in very low doses.

Kidney function was similar in both patient groups.

"By demonstrating identical kidney transplant survival and function for five years, we now have a scientific basis for offering steroid-free therapies in kidney recipients," Woodle says.

However, he notes that risk of rejection episodes in patients was slightly increased with early steroid discontinuation.

"These episodes were mild and easily treated," he says.

He adds that although the five-year kidney transplant survival and function were identical between those who received prednisone and those who received other immunosuppressive drugs in this study, it doesn't mean that it will be the same in 10 or 20 years.

"Our hope is that with our modern anti-rejection drugs and new drugs being developed, even this small risk of increased rejection combined with longer-term results will not be changed," he says.

The results of this study are now being used in different transplant populations, resulting in much lower prednisone doses or complete elimination with fewer complications.

Source: University of Cincinnati