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Kidney Graft Loss Due to BK Virus Need Not Prevent Retransplantation

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BOSTON—Retransplantation after kidney graft loss due to BK virus nephropathy appears to be safe and feasible. However, replacing alemtuzumab with basiliximab may be necessary to achieve optimal outcomes in retransplanted patients, according to data presented at the Infectious Diseases Society of America annual meeting.

"I think some centers are hesitant to retransplant some of these patients because they are worried the BK will come back," said study investigator Nicole Theodoropoulos, MD, a third-year transplant infectious disease fellow at Northwestern University Feinberg School of Medicine in Chicago. "There is no protocol for what to use for induction therapy and for maintenance immunosuppression."

Currently, BK nephropathy is a significant problem that affects 3%-8% of all kidney transplant recipients in the United States and it remains a cause of graft loss, according to the investigators. Retransplantation after graft loss due to BK nephropathy is feasible, however, there have been some published reports suggesting a higher rate of recurrent disease.

Since 2008, Dr. Theodoropoulos' institution has prospectively screened kidney transplant recipients for BK viruria/viremia. In all cases, kidney transplant recipients were screened for BK virus by a polymerase chain reaction assay every four weeks for the first four months post-kidney transplant. Patients were then retested every two months for two years. A review of kidney transplant recipients revealed a 4.7% prevalence of BK nephropathy and an associated graft loss rate of 19.4%.

The investigators performed a single center retrospective cohort study of all patients who underwent repeat kidney transplantation after graft loss secondary to BK nephropathy from January 2006 to August 2010. The researchers identified eight patients who underwent retransplantation after graft failure due to BK nephropathy. Seven of these patients had a transplant nephrectomy prior to or on the same day as the retransplantation.

Of the eight patients, seven received basiliximab induction and all underwent monthly assessments for disease recurrence. Importantly, seven of the eight patients had documented resolution of BK viremia prior to retransplantation.

BK viruria developed in seven patients post-transplant at a median of four weeks. BK viremia developed in two patients at a median of six weeks, and one patient experience recurrence of BK nephropathy with graft failure at 79 weeks. This patient was the recipient of an initial simultaneous pancreas kidney transplant, and, therefore, aggressive reduction in immunosuppression was not possible, as the pancreatic graft was functioning well. After

the second kidney failed because of BK nephropathy, the patient underwent a third kidney transplant, which was successful.

"We didn't have a control group," Dr. Theodoropoulos said. "But it seems that this induction therapy does seem to work. We think close monitoring and early reduction of immune suppression may be critical."

Retransplantation after graft loss from BK nephropathy was generally successful, Dr. Theodoropoulos and her colleagues concluded. Only one of the eight patients with a repeat kidney transplant experienced recurrent BK nephropathy. Although the study was small, the findings suggest that kidney transplant patients who lose their initial graft due to BK nephropathy should be still be considered candidates for a retransplantation, Dr. Theodoropoulos said.