Survival of Rehospitalized Kidney Allograft Recipients

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Introduction. Undergoing transplantation is extremely stressful, and a recipient is likely leave the hospital burdened with fears of an uncertain future. A paucity of knowledge on the long-term survival of rehospitalized kidney transplant recipients is the likely reason that physicians fail to provide this group of patients with promising information and reassurance about their future. We sought to describe the long-term patient and graft survival after nonfatal rehospitalization in kidney recipients with a normal graft function after discharge.

Materials and Methods. We reviewed the follow-up data (from the time of discharge after first rehospitalization) of 253 kidney transplant recipients who had been discharged from rehospitalization with a normal kidney function (serum creatinine less than 1.6 mg/dL). Patient and graft survival rates 6 months and 1, 2, and 5 years after discharge were determined.

Results. The mean duration of follow-up (from the time of discharge after the first rehospitalization) was 38.9 ± 11.2 months (range, 6 to 84 months). The overall patient survival rates were 98%, 97%, 95%, and 93% at 6 months, 1 year, 2 years, and 5 years, respectively. Graft survival rates at these times were 88%, 82%, 77%, and 63%, respectively. After the first posttransplant rehospitalization, 54 patients (21.9%) experienced more hospitalization episodes (mean, 2.6 ± 2.0 times), while 193 (78.1%) had no further hospitalizations during the follow-up period.

Conclusion. Kidney transplant recipients who are rehospitalized should be reassured about favorable chances of survival if discharged with a normal graft function.
after rehospitalization. Believing that there is a
dearth of discussions brought about by the medical
community in determining and publishing data
on the survival rates of rehospitalized kidney
transplant recipients, we found it unethical to
leave many patients bereft of hope. Thus, we
aimed to determine the patients and graft survival
rates in kidney allograft recipients with a history
of posttransplant rehospitalization.

MATERIALS AND METHODS
We reviewed the hospital and clinic records of
kidney transplant recipients of Baqiyatallah Medical
Center in Tehran, Iran. Of a total of 382 kidney
transplant recipients who were rehospitalized for
the first time between 2000 and 2003, there were
253 patients discharged with a normal kidney
function. We analyzed their survival rates and
excluded the rest of the recipients (33.8%) from
the survival analysis. It should be noted that our
hospital, the rate of at least 1 episode hospitalization
after transplantation was 71%.

Our immunosuppressive treatment protocol
contained mycophenolate mofetil, cyclosporine,
and prednisone. Normal allograft function after
discharge was defined as a serum creatinine level
less than 1.6 mg/dL.7 Patient and graft survival
rates at 6 months and 1, 2, and 5 years after
rehospitalization discharge were calculated by the
Kaplan-Meier method. Graft survival was analyzed
as non-death-censored. As the time interval between
transplantation and first rehospitalization was
not normally distributed, we used median and
interquartile range for its description.

RESULTS
The patients consisted of 176 men (69.6%) and
77 women (30.4%) at a mean age of 40.3 ± 9.3 years
(range, 12 to 73 years) at transplantation time.
The kidney allografts had been provided by 206
living unrelated donors (81.4%), 26 living related
donors (10.3%), and 21 cadaveric donors (8.3%). The
median interval between transplantation and first rehospitalization was 6 months (interquartile
range, 5 months). The causes of rehospitalization
were infection in 121 patients (47.8%), graft rejection
in 104 (41.1%), surgical complications in 15 (5.9%),
drug complications in 13 (5.1%), urinary calculus
in 10 (3.9%), cancer in 3 (1.2%), cardiovascular
disease in 1 (0.4%), and others in 15 (5.9%).

The mean duration of follow-up (from the time
of discharge after the first rehospitalization) was
38.9 ± 11.2 months (range, 6 to 84 months). The
overall patient survival rates were 98%, 97%, 95%,
and 93% at 6 months, 1 year, 2 years, and 5 years,
respectively. Graft survival rates at these times were
88%, 82%, 77%, and 63%, respectively. After the
first posttransplant rehospitalization, 54 patients
(21.9%) experienced more hospitalization episodes
(mean, 2.6 ± 2.0 times), while 193 (78.1%) had no
further hospitalizations during the follow-up period.
The mean duration from the first rehospitalization
to the second one was 11.2 ± 19.9 months (range,
1 to 48 months).

DISCUSSION
Our survival study on kidney transplant recipients
who had functioning allografts after being discharged
from their first rehospitalization showed promising
results; the 2- and 5-year patient survival rates were
95% and 93%, respectively. These rates for graft
survival were 77% and 63%, respectively. These
survival rates seem to be acceptable for both patients
and grafts. The low frequency of kidney transplant
recipients without any rehospitalization precluded
assigning a control group. It is noteworthy that
the low rate of recipients with no rehospitalization
was borne out by Neylan and colleagues’ study.8
Comparing the above rates, albeit not statistically,
with those of the nationwide reports on the overall
kidney transplant recipients within the same period
shows an acceptable post-first-rehospitalization
survival. In Iran, the 3- and 5-year patient survival
rates are about 95% and 75%, respectively, and
the 5-year graft survival rate is over 50%.9,10 Therefore, we
believe that physicians should inform rehospitalized
kidney transplant patients of their potentially good
survival probability. This possibly may decrease the
very strong fear after rehospitalizations. It seems
that currently, most physicians do not reassure
their patients, maybe because of lack of published
survival rates after discharge.

To our knowledge, this is the first study to focus
on the outcome of kidney transplant recipients after
rehospitalization discharge. Further promising news
comes from some other studies reporting that the
survival rates in kidney transplant recipients after
complete recovery following antirejection therapy
are not significantly different from those without
acute rejection episodes.11,12
What further underscores the importance of improving a patient’s outlook on his or her future is the evidence suggesting that, contrary to the notion that kidney transplantation improves the recipient’s mental status, there can be tougher posttransplant psychological challenges such as depression, anxiety, suicidal behavior, and dissociative identity disorder. The contributors to a kidney recipient’s fear are high costs of treatment, use of immunosuppressants with direct (side effects) and indirect (excessive costs) impacts, mood changes, irritability, feelings of inferiority due to the use of steroids in the early posttransplant stages, physical complications triggered by steroid use (acne, Cushingoid face, and bulging stomach) or cyclosporine treatment (hirsutism, tremor, and gingival hyperplasia), change in body image, and loss of identity. Nonetheless, the largest contributor to a kidney transplant recipient’s fear of an uncertain future is concerns about organ rejection and infection. Appropriate measures should be taken to dispel uneasiness when readmission occurs, since more than 50% of kidney transplant recipients experience rehospitalization during the first posttransplant year. Such measures should by no means be limited to the realm of kidney transplantation. Indeed, it is wrong to assume that the mental status of any patient hospitalized for any medical reason drastically improves after discharge. In contrast, rehospitalization is likely to exacerbate fears and reduces the quality of life. For many kidney transplant recipients, rehospitalization upsets their body image, their body image, and their sense of self-worth. Fortunately, the story is not all doom and gloom; it has been reported that offering patients encouragement and hope about their future can relieve their worries and discourage as they view it as the harbinger of doom. In the interpretation of the discussion presented here, 2 points should be noticed. Firstly, in this study, first rehospitalizations with a wide range of causes and post transplant time interval were included. The cause of hospitalization is a main factor affecting inpatient outcome (the outcome of rehospitalization itself and not the survival of the patient thereafter). Here we described postdischarge survival of those who recovered and had functioning kidney allografts. Nonetheless, we did not consider several factors of the patients and transplantation and hospitalizations affecting transplantation outcome. Secondly, although most researchers evaluate the survival rates from transplantation itself (because their question is the survival after transplantation), since we questioned the survival after being discharged, we preferred a follow-up period from the time after being discharged.

CONCLUSIONS

Our study aimed to present the medical community with promising evidence that rehospitalized kidney transplant recipients seem to have an acceptable patient and graft survival if discharged with a normal allograft function. We hope that our results will encourage physicians to reassure this set of patients regarding the good prognosis despite hospitalization. However, it should be noted that this finding is regardless of the reason for hospitalization, and physicians have to consider the severity of the disease.

FINANCIAL SUPPORT

This study was fully supported and funded by the Nephrology/Urology Research Center of Baqiyatallah University of Medical Sciences.

CONFLICT OF INTEREST

None declared.

REFERENCES


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Received May 2008
Revised July 2008
Accepted August 2008