

Does the Laparoscopic Nephrectomy Donor Leave the Hospital Early than the Open Nephrectomy Donor?

Afshar Zomorodi*, Alireza Farshi and Sahar Zomorodi

Kidney Transplant, Imam Reza Hospital, Tabriz Medical Science University, Tabriz, Iran

Abstract

Kidney transplantation is the best treatment for chronic renal failure patient (CRF), because in this treatment the patient will have normal life and also it is more cost effective than other methods for treatment of CRF. One of the major problems with the kidney transplantation is shortage of the kidney donor. Besides deceased donor, live kidney donors (related and unrelated) are selected for solving the problem of kidney donor shortage. Two approaches are used for removing kidney from live donors including: open nephrectomy and laparoscopic nephrectomy. The short stay at hospital is mentioned as one of the advantages of laparoscopic donor nephrectomy that is a factor for increasing live donor volunteer. At our center, we studied the issue: how long is the time of hospital stay of the kidney donor who has been operated as open nephrectomy and is it different with that reported for laparoscopic donor nephrectomy?

Methods: The time of hospital stay of 326 kidney donors (35 females, 291 males) post operation have been studied as retrospectively at kidney transplant center of Imam Reza hospital from 2005 to 2011.

Results: In 326 kidney donors, 48 donors after second day of operation, 276 donors after third day of operation, one donor after eight day of operation, and one donor after sixth day of operation had been discharged from the hospital, for all the kidney donors the operation had been done through trans flank incision and retroperitoneal and without the rib resection.

Conclusion: In this study, considering the hospital staying time of open nephrectomy donors, it is understood that nearly one hundred percent of donors had been discharged from the hospital until third day of operation so it seems that the hospital stay of the open nephrectomy donors are comparable with the reported time for hospital stay of laparoscopic nephrectomy donors.

Keywords: Open donor nephrectomy; Laparoscopic nephrectomy; Kidney transplant; Kidney donor

Introduction

Kidney replacement is the method of choice for chronic renal failure patient [1] because in this treatment approach the patient has a normal life style, also from economic standpoint it is cost effective [2]. There are three sources to provide kidney for replacement of kidney including: deceased donor, live related donor, live unrelated donor. The graft survival of the deceased donor is lower than the live donor. At present time, the rate of survival of kidney recipient for one year who has received kidney from live donor is 98%, and the rate of survival for kidney recipient for one year who has received kidney from deceased donor is 94%. The graft half-life for living donor is approximately 20 years, and the graft half-life for deceased donor is 12 years, in the deceased donor delayed graft function (DGF) is more common than live donor and DGF has direct effect at lowering graft survival [3]. For removing the kidney from the live donor two approaches are available: open donor nephrectomy and laparoscopy donor nephrectomy. The two approaches have some advantages and some disadvantages. The Laparoscopic donor nephrectomy has been introduced for increasing the volunteers for kidney donation because it is supposed that with the laparoscopic procedure the donor will be safe and with less stay time at hospital and will have less pain (advantages), long time of anesthesia and long time of warm ischemia and technology dependent are disadvantages of the laparoscopic donor nephrectomy. We designed to study the stay time of the donors in the hospital post open operation at our kidney transplant center in which almost all of the donors are live donors.

Materials and Methods

At the kidney transplant center of Imam hospital (Tabriz Medical Science University), in which the kidney transplantation team have

an experience of more than twenty years with one thousand kidney transplants, since 2005–until 2011 the time of hospital stay of the donors post operation have been studied retrospectively, there were 326 live donors almost all unrelated donors (35 females, 291males) (between ages of 21-40) and in all of them the kidney has been removed by flank incision and retroperitoneal without the rib resection.

Results

In 326 kidney donors, 48 donors after second day of operation, 276 donors after third day of operation, one donor after eight day of operation (because of trauma to aorta and repairing with Dacron) and one donor after sixth day of operation (because post operation bleeding) had left the hospital, and for none of them rib had been resected. Almost all of them after three weeks post operation (rest time) they have started their works.

Discussion

Kidney transplantation is the best choice for treatment of renal failure patient [1] but the most important obstacle is the shortage of donor and the outcome of kidney transplant is better with live donor [2]. The laparoscopy donor nephrectomy has been suggested for

***Corresponding author:** Afshar Zomorodi, Professor of Urology, Kidney Transplant, Imam Reza Hospital, Tabriz Medical Science University, Tabriz, Iran, E-mail: dr_afshar@hotmail.com

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increasing the volunteer of kidney donor [4]. One of the important advantages for laparoscopy donor nephrectomy has been reported is short stay time at the hospital post operation [4-15] and almost the time of hospital stay for laparoscopic donor nephrectomy have been reported about three or 4 days, but in our center nearly one hundred percent of the donors have been discharged from the hospital until third day of post open nephrectomy, so there is no significant difference in the time stay of the donors at the hospital between laparoscopy and open donor nephrectomy.

In a study, the stay time of the donors with the laparoscopic nephrectomy and open nephrectomy has reported as comparable [16]. A study has shown that some other studies as underreport and underestimate about the laparoscopic donor nephrectomy results also morbidity and mortality with laparoscopic donor nephrectomy have been reported and also long time training is necessary to be comfortable at doing the laparoscopic donor nephrectomy has been reported [17]. A study has reported a size of incision in the open donor nephrectomy may be comparable with the size of incision at the laparoscopy donor nephrectomy [18]. With regarding all of the mentioned above, it may be advised if laparoscopy donor nephrectomy is not possible at some centers, it is possible with having more experience about open donor nephrectomy to do open donor nephrectomy with results comparable with laparoscopic donor nephrectomy [16-18].

Conclusion

At this study the time of hospital stay of the live kidney donors post open operation are comparable with laparoscopic donor nephrectomy.

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