



Over **5000** Kidney Transplantations, Single Center Experience:  
“UPGRADED IRANIAN MODEL”  
to Shorten Waiting List Successfully

**N. Simforoosh, MD**

**Professor of Urology**

***Shahid Labbafinejad Medical Center***



***Center of Excellence in Urology and Kidney Transplantation***

**Shahid Beheshti University of Medical Sciences**

**Tehran, I.R.IRAN**

**WWW.IURTC.ORG.IR**

## Renal Transplant Congress

# Anniversary of 5000 Kidney Transplantations

At Shahid Labbafi Nejad  
Center of Excellence



### Important achievements in kidney Transplantation at Shahid Labbafi Nejad Center of Excellence

Total Number	Over 5000
Laparoscopic Donor Nephrectomy	Over 2300
Pediatric Kidney Transplantation	700
Training Transplant Surgeons	36 Qualified Surgeon
Cadaver Kidney Transplantation	Over 800 (60% at Present)
Cooperation in Establishment of Transplant Centers	17 Centers





## Historical background: Shahid Labbafinejad Transplant Center

- First living kidney transplantation (live related) 1984
- First unrelated kidney transplantation (spouse) 1987
- First pediatric kidney transplantation 1986
- First cadaver transplantation 2000
- First laparoscopic donor nephrectomy 2001
- First kidney pancreas transplantation 2008
- First world RCT comparing ODN &LDN (Simforoosh: award winner: WCE 2004)
- First transplant fellowship program: graduating 34

# Renal Transplantation in Shahid Labbafinejad Medical Center 1984-2018

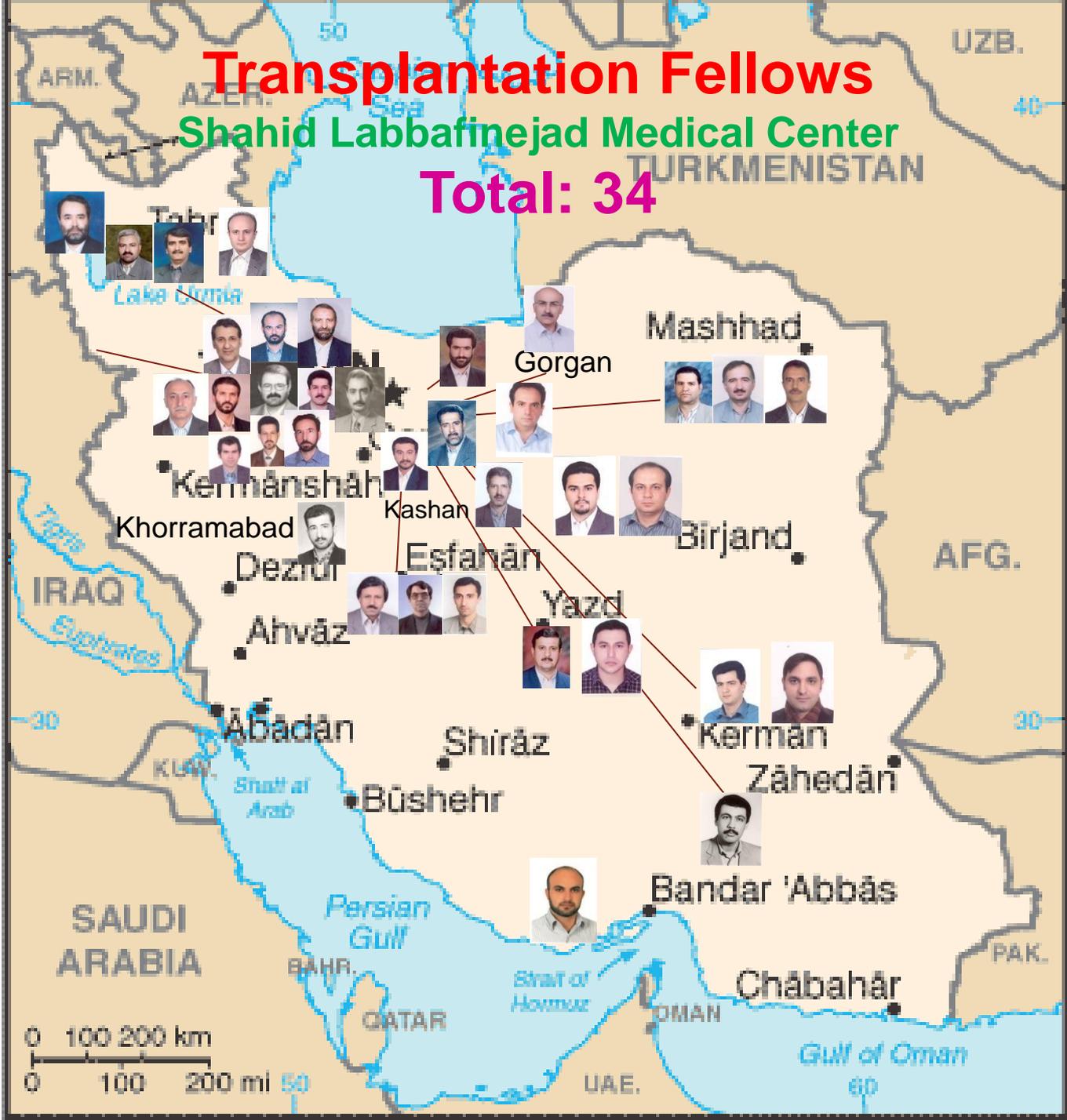
Total number of kidney transplantation: 34 years	5110
Living kidney transplantation	4273
Cadaver kidney transplantation	837
Open Live Donor Nephrectomy (stopped)	2801
Laparoscopic live donor nephrectomy	2309
Pediatric transplantation (< 18 years old)	614
Kidney pancreas transplantation	11

IRAN has the shortest waiting list for kidney transplantation

# Transplantation Fellows

Shahid Labbafinejad Medical Center

Total: 34

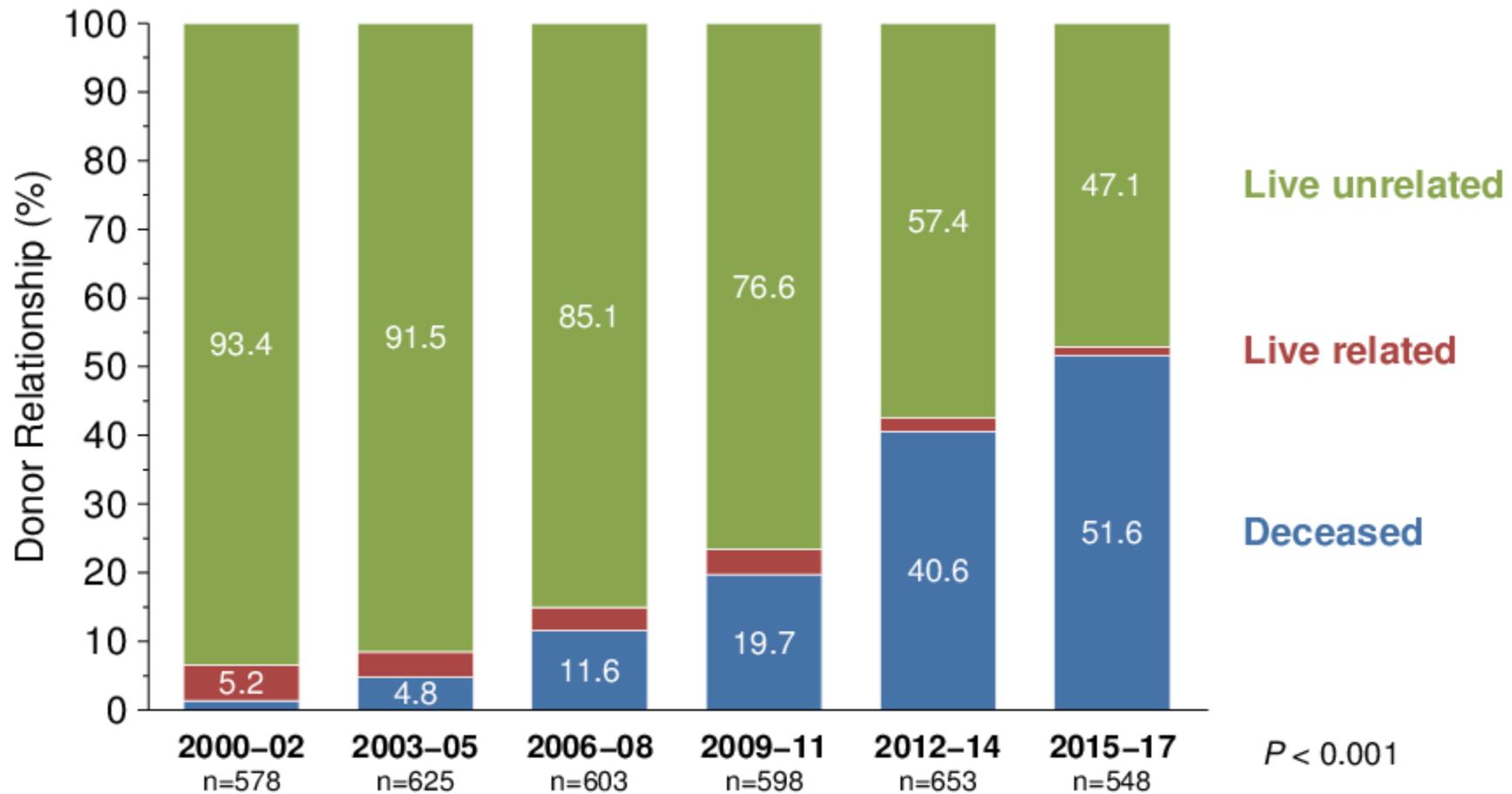


# Different type of donations:

- Establishment of **Iranian model** (First **living unrelated** program in Iran & Middle East: (Simforoosh 1987)
- One of the leading centers for **deceased** donor.
- Youngest and oldest transplantation in Iran (3.5-80y).
- Reporting highest number of laparoscopic donor neph>2000 (**single center**).
- First **mini-laparoscopic** donor nephrectomy program as routine at present (>200cases).

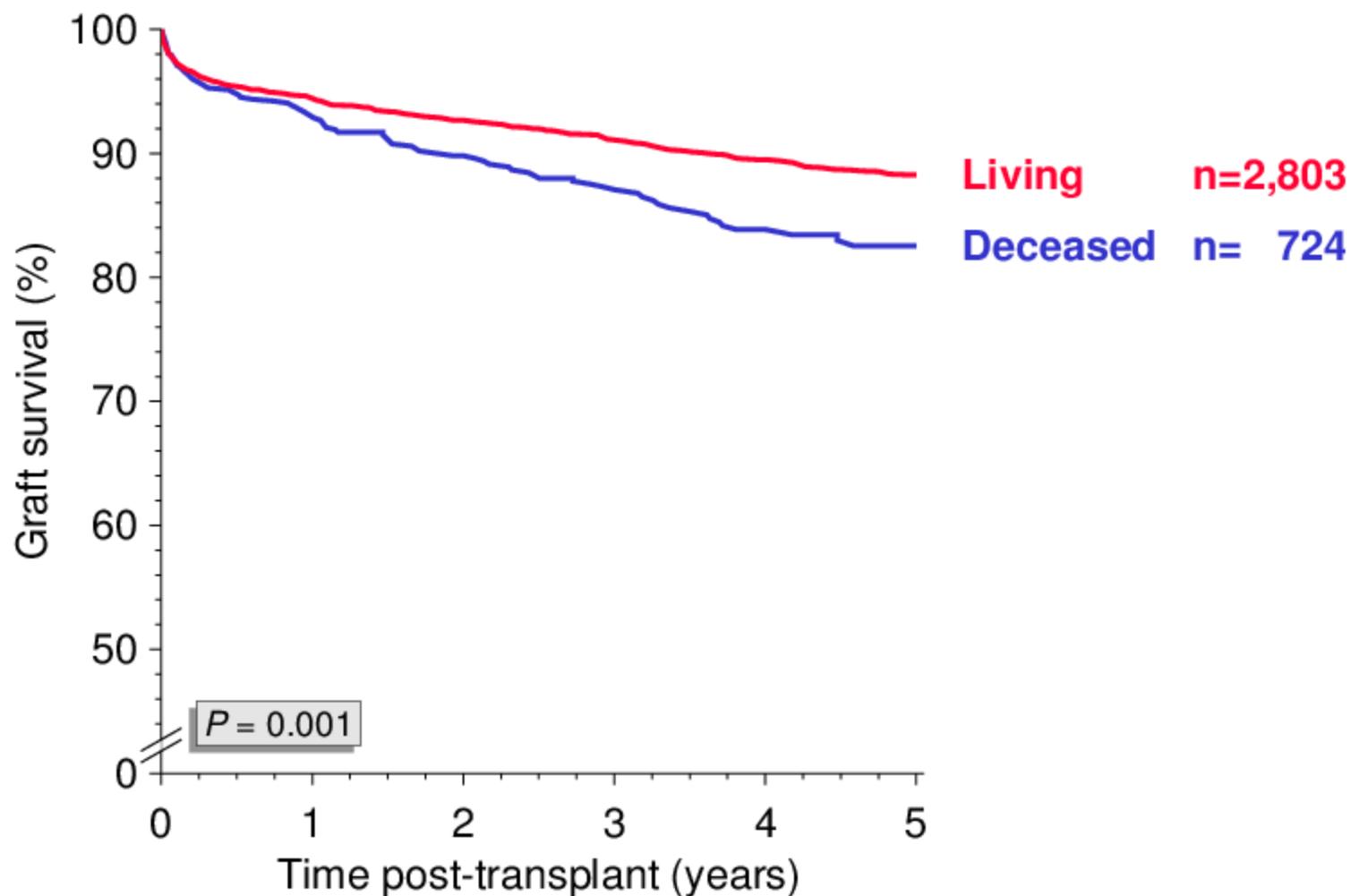
# Transplant Year – Donor Relationship

## Kidney Transplants Tehran



# Donor Relationship

## Kidney Transplants Tehran 2000–2017



# SPECIAL CONDITIONS IN KIDNEY TRANSPLANTATION SURGERY: Shahid Labbafinejad Medical Center

- Recipients with advanced neurogenic bladder: Enterocystoplasty
- Obese recipients
- Children
- Anastomosis of **Right kidney** with short renal vein
- Vascular anastomosis: (**one suture one not technique**)
- \* Donor Surgery: laparoscopy, **Mini-laparoscopy**



# Recipients with advanced neurogenic bladder:

## Enterocystoplasty





# Children:

Kidney Transplantation in Children:

614 cases





Pre-transplant



1y post-transplant



# Pediatric Kidney Transplant With Laparoscopic Donor Nephrectomy

*Nasser Simforoosh,<sup>1</sup> Samad Zare,<sup>2</sup> Abbas Basiri,<sup>1</sup> Ali Tabibi,<sup>1</sup> Mohammad Samzadeh,<sup>1</sup>  
Mohammad Hossein Soltani<sup>1</sup>*

## **Abstract**

**Objectives:** To evaluate outcomes and complications with pediatric living-donor kidney transplant, mostly performed with laparoscopic donor nephrectomy.

**Materials and Methods:** In the 25 years between February 1987 and December 2012, there were 493 children aged  $\leq 17$  years who received a kidney transplant. Demographic characteristics, graft and patient survival, rejection episodes, and complications were recorded. Analysis was performed for 3 sequential periods (1987-1994, 1995-2002, and 2003-2012).

**Key words:** *Children, End-stage renal disease, Kidney transplantation, Laparoscopy, Outcomes*

## **Introduction**

End-stage renal disease (ESRD) contributes to multiple problems in children, including growth retardation, cognitive and psychosocial delay, impaired exercise capacity, changes in body habitus, disturbance of cardiovascular health, and decreased quality of life. Substantial improvements in pediatric renal replacement therapy (dialysis and transplant) have occurred during the past 40 years.<sup>1</sup> However,

# Anastomosis of Right kidney with short renal vein:



# Right laparoscopic donor nephrectomy and the use of inverted kidney transplantation: an alternative technique

Nasser Simforoosh, Alireza Aminsharifi, Ali Tabibi, Mohammadreza Fattahi, Hossein Mahmoodi and Mahmmoud Tavakoli

*Urology Nephrology Research Center, Shaheed Labbafinejad Hospital, Shaheed Beheshti University of Medical Sciences, Tehran, Iran*

Accepted for publication 11 May 2007

Study Type – Therapy (case series)  
Level of Evidence 4

renal vein was placed posteriorly, adjacent to the external iliac vein, making a safe and simple venous anastomosis possible.

one stricture at the site of ureteric anastomosis, which was managed by ureteroneocystostomy.

## OBJECTIVES

To report a novel approach to overcome the problems associated with a short right renal vein harvested by clipping the vein during right laparoscopic donor nephrectomy (RLDN).

## PATIENTS AND METHODS

This prospective study included 32 donors and their recipients; all donors had transperitoneal RLDN. The right renal artery and vein were ligated by Hem-o-lok and titanium clips, which resulted in a very short renal vein (<1.5 cm). When the kidney was positioned inverted in the recipient, the

## RESULTS

All RLDN were completed with no conversion or re-operation. The mean (range) warm ischaemia time was 9.59 (3–17) min and there was no malfunction of the vascular clips on the major vessels. After a mean follow-up of 14 months the recipient survival rate was 97%. Graft function was excellent, with a mean (SD) serum creatinine level of 1.35 (0.31) mg/dL at 3 months after surgery, and there was no renal artery or vein thrombosis in any of the grafts. There were two ureteric complications (6%), i.e. one ureterocutaneous fistula resolved by secondary ureteroureterostomy, and

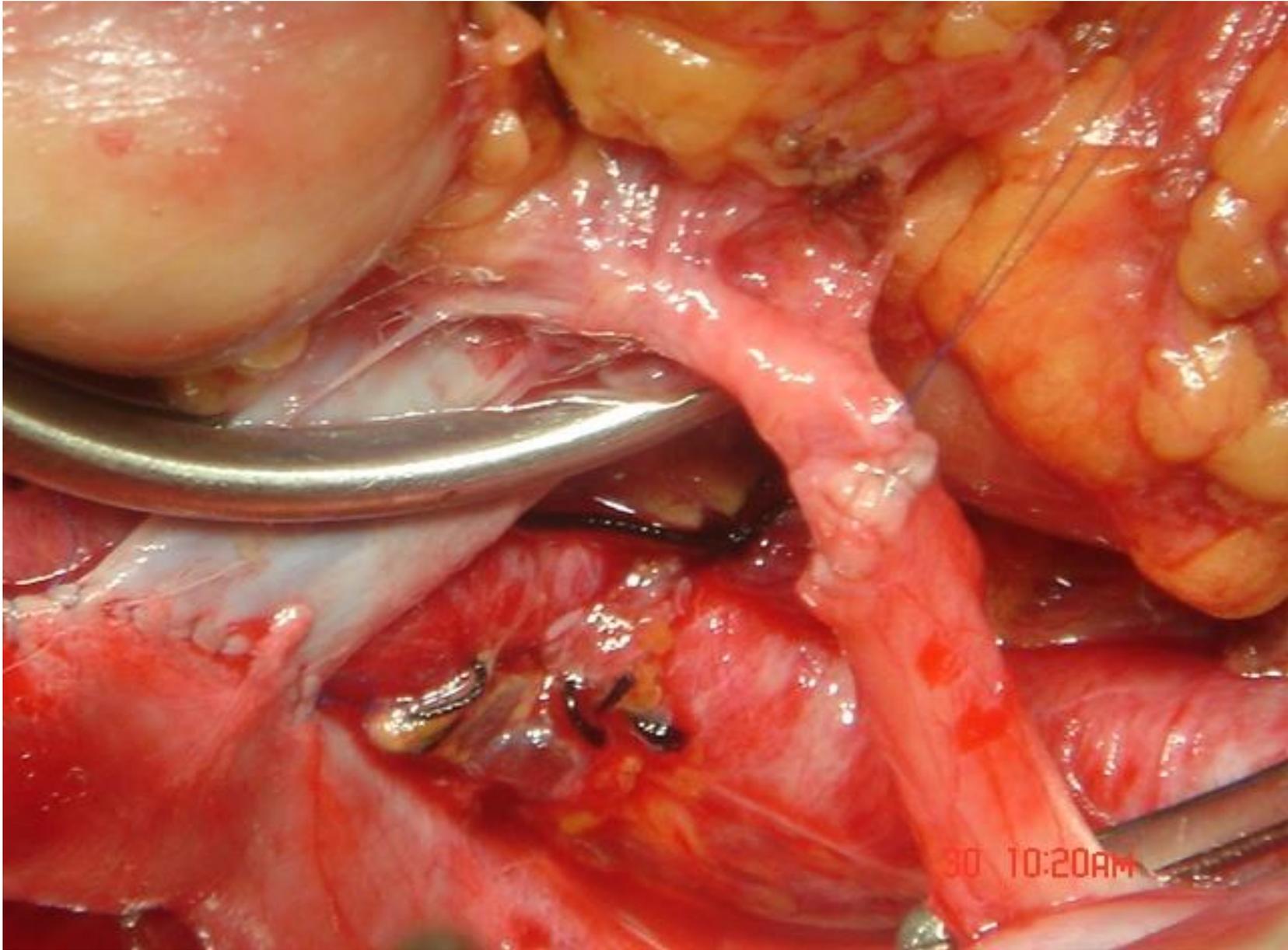
## CONCLUSION

The right renal vein obtained by LDN, after clipping the renal vein, is quite short, but by placing the kidney upside-down in the right iliac fossa transplantation is possible with no increased incidence of vascular thrombosis. This simple modification might obviate the need for removing a patch from the inferior vena cava, which is a challenging procedure for laparoscopic surgeons during RLDN.

## KEYWORDS

inverted, transplantation, kidney, laparoscopy, donor nephrectomy





# Recipient RESULT: Right Kidney

- **DGF** **2** **(%6)**
- **Mean serum Cr (mg/dl):**
  - **Three months** **1.3**



# Conclusion

The length of right renal vein obtained by simple clipping of the renal vein is quite short, but by upside down placing of the kidney in right iliac fossa transplantation will be possible without increased of vascular thrombosis. (a novel technique)



# Vascular anastomosis:

one suture one not technique



# One-Suture, 1-Knot Technique in Renal Vascular Transplant

Nasser Simforoosh,<sup>1</sup> Mohammad Reza Gharati,<sup>2</sup> Mohammad Kazem Moslemi,<sup>3</sup> Behzad Feizzadeh<sup>4</sup>

## Abstract

**Objectives:** We describe the results of our 1-suture, 1-knot technique for vascular anastomosis in renal transplant. This technique can be used for both of the arterial and venous anastomoses.

**Materials and Methods:** Between May 2006 and June 2008, a total of 386 renal transplants were done in our center, using a 1-suture, 1-knot technique. Intraoperative data including the warm and cold ischemic time, arterial and venous anastomotic time, and any early and late postoperative complications in the follow-up were recorded.

**Results:** Mean age of recipients was 37 years. Mean kidney warm and cold ischemia time was 4.8 and 26.2 minutes. Mean arterial and venous anastomotic time was 5.1 and 7.2 minutes. No vascular complications were seen in the early postoperative period. Delayed graft function was diagnosed in 36 patients, but a renal scan showed good perfusion of the allografts of these cases. In the mean follow-up of 18.5 months, we did not encounter any case of renal artery thrombosis or any suspected arterial stenosis.

**Conclusions:** The 1-suture, 1-knot technique is a safe, rapid, and easy method for arterial and venous anastomosis of the renal allograft with low complication rates. It is especially valuable in obese patients and recipients with deep iliac fossa.

From the <sup>1</sup>Department of Urology and Renal Transplantation, Shahid Labafzadeh Hospital, Shahid Beheshti University of Medical Sciences, Tehran; the <sup>2</sup>Department of Urology and Renal Transplantation, Shahid Labafzadeh Hospital, Shahid Beheshti University of Medical Sciences, Tehran; the <sup>3</sup>Department of Urology, Qom, and the <sup>4</sup>Department of Urology, Medical, Iran.

Address reprint requests to Nasser Simforoosh, MD, Department of Urology - Shahid Labafzadeh Hospital, Urology and Nephrology Center, 16 Zeynol, Pordasht Ave, Tehran 16667-9907, Iran.

Phone: +98 21 25 00214 Fax: +98 21 25 00214 E-mail: nsimforoosh@sbmu.ac.ir

Experimental and Clinical Transplantation (2010) 3: 224-227

**Keywords:** Kidney transplantation, Vascular anastomosis

## Introduction

Kidney transplant is the treatment of choice for most cases of end-stage renal disease (1). Transplant surgeons use different techniques for arterial and venous anastomoses in the recipients. In 1902, Carrel described a 3-point anastomosis technique for allograft arterial anastomosis (2). Since then, others have described a 2-point anastomosis, a 4-quadrant technique, a corner-saving technique, nonsuture techniques, and other methods for vascular anastomoses in kidney transplant (3, 4, 5, 6). Most of these techniques were invented to reduce the anastomotic and ischemic time of allograft, while providing good patency, especially in the case of arterial anastomoses.

We describe our results of a 1-suture, 1-knot technique for vascular anastomosis in renal transplant. This technique can be used for arterial and venous anastomoses.

## Materials and Methods

Between May 2006 and June 2008, a total of 386 renal transplants were done in our center using the 1-suture, 1-knot technique.

**Technique:** After developing an extraperitoneal space in the iliac fossa and mobilizing the external iliac vein, the kidney is put in the iliac fossa in its final place. The renal vein is anastomosed end-to-side, usually to the external iliac vein, but the site of arterial anastomosis is selected with regard to the allograft position. Both anastomoses are made with 6-0 monofilament nylon sutures.

We explain here the end-to-side anastomosis of renal vein to external iliac vein with 1-suture, 1-knot

technique (Figures 1 and 2). The same method can be used for end-to-end or end-to-side anastomosis of the renal artery, with or without spatulation (Figure 3). The anastomosis is begun with an in-out and out-in suture at 1 corner of venotomy incision (Figure 1-A). Then, the posterior wall is sutured in a running fashion from the intraluminal space of external iliac vein (Figure 1-B). After finishing the anastomosis of posterior wall, the anterior wall is sewn with the same suture material while pulling the edge of the graft side and the recipient side. This is done without putting any knot at the other corner of venotomy incision (Figure 1-C). Finally, the anastomosis is finished at the same point of the beginning (Figure 1-D). After the last suture, both ends of the suture material are pulled gently, but putting the knot is delayed until unclamping of the external iliac vein (or the artery, in the case of an arterial anastomosis). This permits the anastomosis site to become expanded to its widest size, and prevents a purse-string effect at the anastomosis site (Figure 1-E).

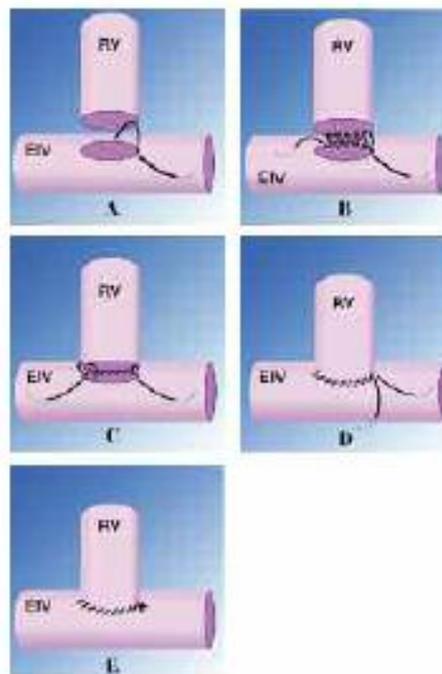


Figure 1. Schematic view of 1-suture, 1-knot technique.



Figure 2. End-to-side anastomosis of the renal vein to the external iliac vein.



Figure 3. End-to-end anastomosis of the renal artery to the external iliac artery.

Ureteral anastomosis is done by a modified Lich technique. In all of the cases, ureteral stent is placed, and aspirin (100 mg/d) is begun on postoperative day 1. Intraoperative data including the warm and cold ischemic times, and arterial and venous anastomotic times, are recorded. Follow-up consists of color Doppler ultrasonographic examination of the anastomosis site on postoperative days 1 and 30, and measuring blood pressure and serum creatinine level daily until postoperative day 10; then, at 1, 3, 6, and 12 months after transplant, and then every 6 months if there was any clinical problem.

## Results

Mean age of recipients was 37 years (range, 6-71 years). A total of 258 patients were men (66.8%) and 128 were women (33.2%). All of the donor nephrectomies were done by laparoscopy. Mean kidney warm and cold ischemia time was 4.8 minutes (range, 3-11 minutes) and 26.2 minutes (range, 15-55 minutes). Mean arterial and venous anastomotic time was 5.1 minutes (range, 3-9

One suture  
One knot Technique  
in Kidney Transplantation

M. Muralidharan M.D.

Senior Consultant

Transplant Surgeon

# DONOR SURGERY:

## LAPAROSCOPIC DONOR NEPHRECTOMY

First RCT in the World: WCE 2004

LDN: 2309 CASES

Mini-LDN 470



# Upper Urinary Tract

Authors from Iran compare various outcomes between laparoscopic and open donor nephrectomy in kidney transplantation; they carried out a large comparative trial, and found that laparoscopic donor nephrectomy gave better donor satisfaction and morbidity, with equivalent graft outcome.

## Comparison of laparoscopic and open donor nephrectomy: a randomized controlled trial

NASSER SIMFOROOSH, ABBAS BASIRI, ALI TABIBI, NASSER SHAKHSSALIM and SEYED M.M. HOSSEINI MOGHADDAM

Department of Urology and Renal Transplantation, Urology and Nephrology Research Center, Shahid Labbaf Mejad Hospital, Shahid Beheshti University of Medical Science, Tehran, Iran

Accepted for publication 15 November 2004

### OBJECTIVE

To compare the graft survival, donor and recipient outcome, donor satisfaction, and complications of laparoscopic (LDN) and open donor nephrectomy (ODN) in kidney transplantation.

### PATIENTS AND METHODS

In a randomized controlled trial, 100 cases each of LDN and ODN were compared. We modified the standard LDN procedure to make it less expensive.

### RESULTS

The mean (SD) operative duration was 152.2 (33.0) min for ODN and 270.8 (58.5) min for LDN, and the mean duration of kidney warm ischaemia was 18.7 min for ODN and 8.7 min for LDN. Only one LDN required conversion to ODN because of bleeding. The mean follow-up in the LDN and ODN groups was not significantly different (406.1 vs 403.8 days). The mean (SD) score for donor satisfaction was 17.3 (3.5) for ODN and 19.6 (1.0) for LDN. The rate of ureteric complications was 2% for ODN and none for LDN. As determined by serum creatinine levels at 1, 21–30, 90, 180 and 365 days after surgery, graft function was not

significantly different between ODN and LDN. Long-term graft survival was 93.8% for LDN and 92.7% for ODN.

### CONCLUSIONS

Compared to ODN, LDN was associated with greater donor satisfaction, less morbidity and equivalent graft outcome.

### KEYWORDS

laparoscopy, nephrectomy, kidney transplantation, living donor, randomized controlled trials

### INTRODUCTION

Laparoscopic donor nephrectomy (LDN) was developed in an attempt to increase the frequency of kidney donation by reducing the disincentives to donation, capitalising on the associated reduced morbidity [1]. Ratner *et al* [2] reported the first successful human LDN in 1995. Later descriptive studies reported that the morbidity of LDN was less than with open DN (ODN) and that the long-term renal graft function of LDN was equivalent to that of ODN [2–4]. To our knowledge, the present study is the first randomized clinical trial comparing LDN and ODN. Preliminary results were reported previously [5].

## CERTIFICATE



22nd WORLD CONGRESS  
ON ENDOUROLOGY

### BEST LAPAROSCOPIC PAPER

IN RECOGNITION OF EXCELLENCE IN ENDOUROLOGICAL RESEARCH  
WE ARE HONOURED TO AWARD

*N. Simforoosh, A. Basiri, A. Fiazee et al*

WITH THE OLYMPUS PRIZE FOR THE BEST LAPAROSCOPIC PAPER  
AT THE WORLD CONGRESS ON ENDOUROLOGY

*Arthur D. Smith*

November 5th 2004, Arthur D. Smith, M.D.





# Renal Registry of Turkey: Change of Renal Replacement Modalities in the Last 15 years

Seydi N<sup>1</sup>, Ates K<sup>1</sup>, Sener B<sup>1</sup>, Akbermek MR<sup>1</sup>, Tardil Z<sup>1</sup>, Duran B<sup>1</sup>, Kocogil F, Suleymanler G<sup>1</sup>  
 Turkish Society of Nephrology Registry Committee



## BACKGROUND

- The national renal registry studies provide epidemiologic and demographic picture of patients with renal disease and treatment and local follow-up practices.
- Turkey ranks seventeenth among the world's most populous countries with a population of approximately 80 million in 2015 and annual rate of growth of population as 1.35%.
- Founded in 1970, TSN has been coordinating annual national renal registry with its own resources since 1990. The registry has been collecting data on nephrology, dialysis and transplantation from all centers treating patients with renal diseases in Turkey.
- The results of the registry have been published by TSN as yearly booklets and are available online (<http://www.tsn.org.tr>) in English since 1999, which are comprehensive source on national nephrology, dialysis and transplantation status in Turkey. The results of the registry have also been included in ERA-EDTA and USRDG reports.
- In this poster, detailed and updated status of RRT for ESRD in Turkey depending on the national registry data for the last 10 years is presented.

## SUBJECTS AND METHODS

### Data collection

- The registry form includes questions on facilities of the centre; characteristics of patients with renal diseases, dialysis patients, or patients who had kidney transplantation; and treatment and follow-up procedures for these patients.
- Since 2006, centers have been entering their data to a central electronic database that is managed by TSN. Since 2013 TSN registry is in close collaboration with Ministry of Health and also recruiting data from their database.

## RESULTS

### Incidence and prevalence of ESRD leading to RRT

- The number of patients on renal replacement therapy is increasing, at the end of 2015, 73660 patients were on renal replacement therapy. The prevalence and incidence of end-stage renal disease was 505 and 147 per million population respectively. Both prevalence and incidence of ESRD show tendency of increase over the last years, particularly between 2001 and 2015 (Figure 1).
- The most common RRT modality in prevalent ESRD was hemodialysis (77.3% of patients) followed by peritoneal dialysis (5.3%) and transplantation (17.4%) in 2015 (Table 1). While the numbers of hemodialysis and transplant patients increased consistently from 2000 to 2015, number of peritoneal dialysis patients decreased during this period.

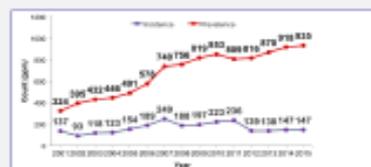


Figure 1. The point prevalence and incidence of ESRD leading to RRT per pop in Turkey.

Table 1. Distribution according to RRT type as of the end of 2015.

	n	%
Hemodialysis	56851	77.31
Peritoneal dialysis	3909	5.31
Transplantation*	12800	17.38
Total	73660	100.00

### Demographic/Etiology of hemodialytic patients

- The three most common etiologies for ESRD leading to RRT were diabetes mellitus, hypertension, and chronic glomerulonephritis. The frequency of diabetes mellitus has increased rapidly in recent years (Figure 2).
- It is remarkable that the rate of diabetes mellitus and hypertension increased in patients with ESRD while renal pathologies like chronic glomerulonephritis, urologic diseases etc. decreased over the 15 years of registry (Figure 3).

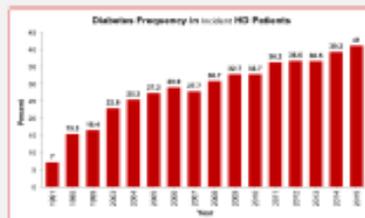


Figure 2. Trends in the most common underlying etiologic causes of RRT patients in Turkey.

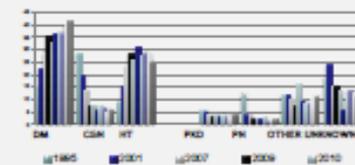


Figure 3. Changes in primary etiology over the years in patients receiving HD.

### Clinical characteristics of hemodialytic patients

- The change in the technical characteristics of hemodialysis treatment is shown in Table 3. Synthetic and semi-synthetic membranes as well as high-flux membranes appear to be used increasingly. Recently, the frequency of hemodialysis is three times a week in the majority of patients.
- There was an increasing tendency in Kt/V over the years.
- In the majority of patients (59.5%) Kt/V was above 1.4 at the end of 2015.

Table 3. Change in the technical characteristics of hemodialysis treatment over the years (expressed as percentage of patients)

	2001	2004	2006	2008	2007	2009	2009	2011	2014	2015
<b>Type of vascular access</b>										
AV fistula	47,3	46,1	45,7	45,0	45,4	44,0	42,9	41,1	40,4	40,4
Permanent (tunnelled) catheter	3,3	3,3	3,6	4,9	7,0	7,7	9,9	11,7	13,4	14,4
<b>Dialyser type</b>										
Synthetic	-	34,0	41,0	42,8	47,2	46,3	45,0	38,9	-	-
Semi-synthetic	-	33,8	47,8	22,1	18,1	17,6	14,0	7,0	-	-
High-flux	-	8,9	9,0	13,0	13,7	21,8	21,0	34,1	33,3	36,3
Kupferin	-	1,3	0,2	0,1	0,0	0,3	0,0	0	-	-
<b>HD frequency</b>										
Once weekly	1,9	1,8	1,7	1,5	0,9	0,9	0,9	0,8	0,8	0,5
Twice weekly	13,4	13,8	10,2	9,3	7,8	7,3	7,0	5,7	5,9	5,0
3 times weekly	42,3	44,8	46,1	49,2	49,9	49,2	49,1	49,1	49,8	49,7
Nocturnal HD or >3 times weekly	-	-	-	-	1,4	1,4	2,0	0,7	0,8	0,8
<b>Kt/V urea index</b>										
<1,20	-	36,3	27,8	14,3	12,7	11,3	10,2	11,0	11,3	9,8
≥1,20	-	49,7	72,2	85,3	87,3	88,8	89,8	89,0	88,7	90,2

### Peritoneal Dialysis

### Kidney Transplantation

- While living donor is the most common donor source in kidney transplantation patients, a large proportion of patients final situation is functioning graft as of the end of 2015 (Table 4 and 5).

Table 4. Distribution of kidney transplantation patients according to donor source in 2015.

	n	%
Kidney transplantation from living donor	2544	79.09
Kidney transplantation from deceased donor	670	20.91
Total	3214	100.00

Table 5. Distribution of all kidney transplantation patients transplanted in 2015 according to final situation as of the end of 2015.

	n	%
Followed with functioning graft	2463	97.20
Returned to dialysis	28	1.10
Dead	43	1.70
Total	2534	100.00

- The number of transplantations over the years is shown in Figure 5. While an increase in the all of transplantation was observed over the years, a lower rate increase in the number of cadaveric transplants is observed (Figure 6).



Figure 5. Number of transplantation over the years



Figure 6. Percentage of cadaveric donor over the years.

## CONCLUSION

- In conclusion RRT modality in Turkey is focused primarily on hemodialysis. The trend of the past 15 years in Turkish Renal Registry indicates that while the number of peritoneal dialysis decreases, an increase in the number of transplantation is observed.
- However, it is necessary to achieve a significant increase in the cadaveric donor rather than living donor transplantation.



Upgraded

# Iranian Model

in kidney transplantation

I- Deceased

II- Living

# Religious and Legal Justification for Deceased Donor KT

**RELIGIOUS STATEMENT : 1989**

**DECREE APPROVAL : 2002**



# Present status of kidney shortage

- Kidney shortage is a **global crisis** at present
- Demand far exceeds the supply
- 7000 lives lost in US waiting for kidney in 2016
- Waiting list is 4-12 years



# Fatwas From Shia Olama for kidney donation

Ayatollah	Living paid donation	Deceased donation
A. Khomeini	Yes	Yes: with donor consent
A. Khamenei	Yes	Yes
A. Systani	Yes	<b>No</b>
A. Makarem	Yes	Yes
A. Vahid Khorasani	Yes	<b>No</b>
A. Safi Golpayegani	Yes	<b>No</b>
A. Shobairi Zanjani	Yes	<b>No</b>
A. Nouri-hamedani	Yes	Yes

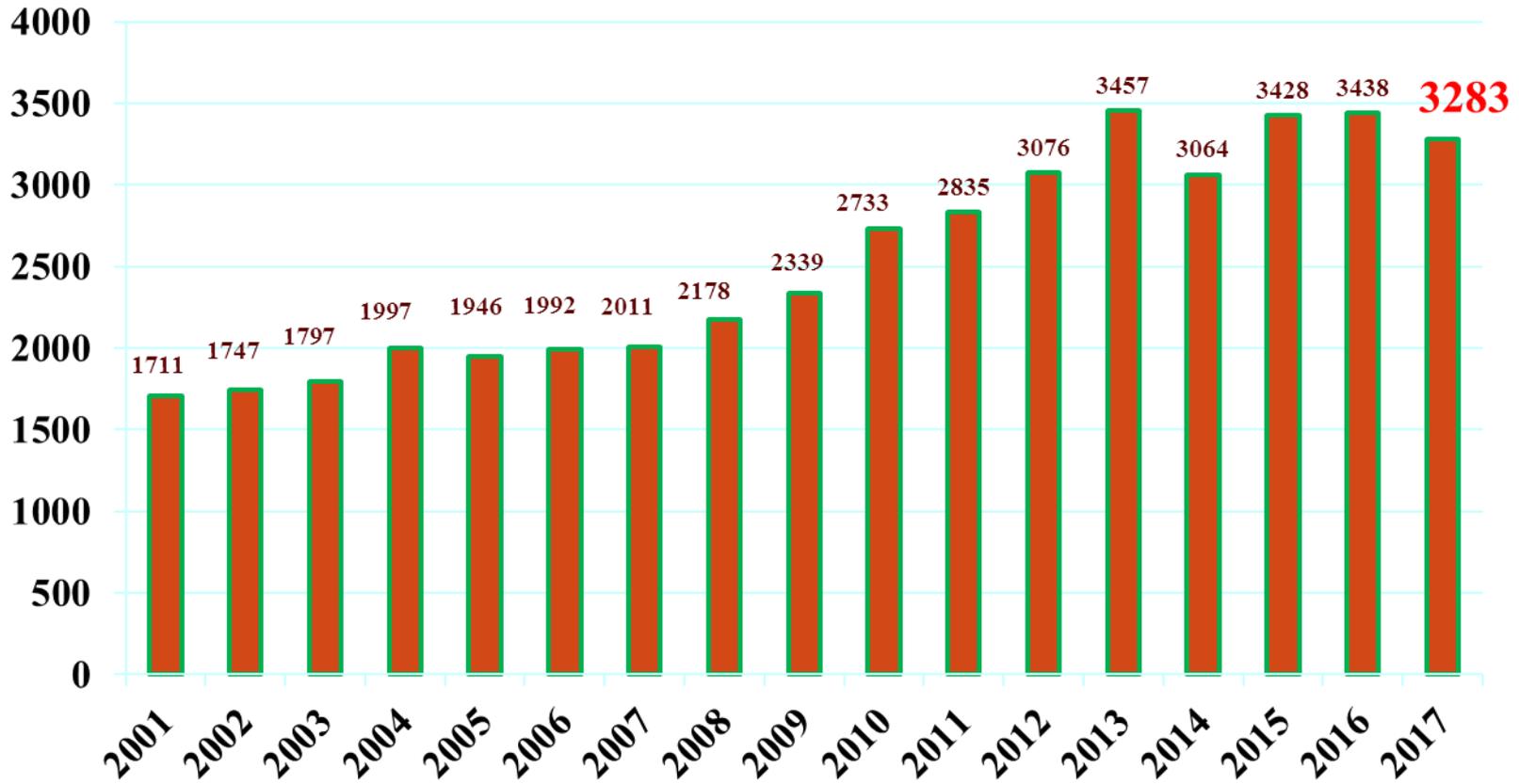


# Iranian model started 30 years ago from a spouse: **a breakthrough** (Simforoosh et.al.1987)

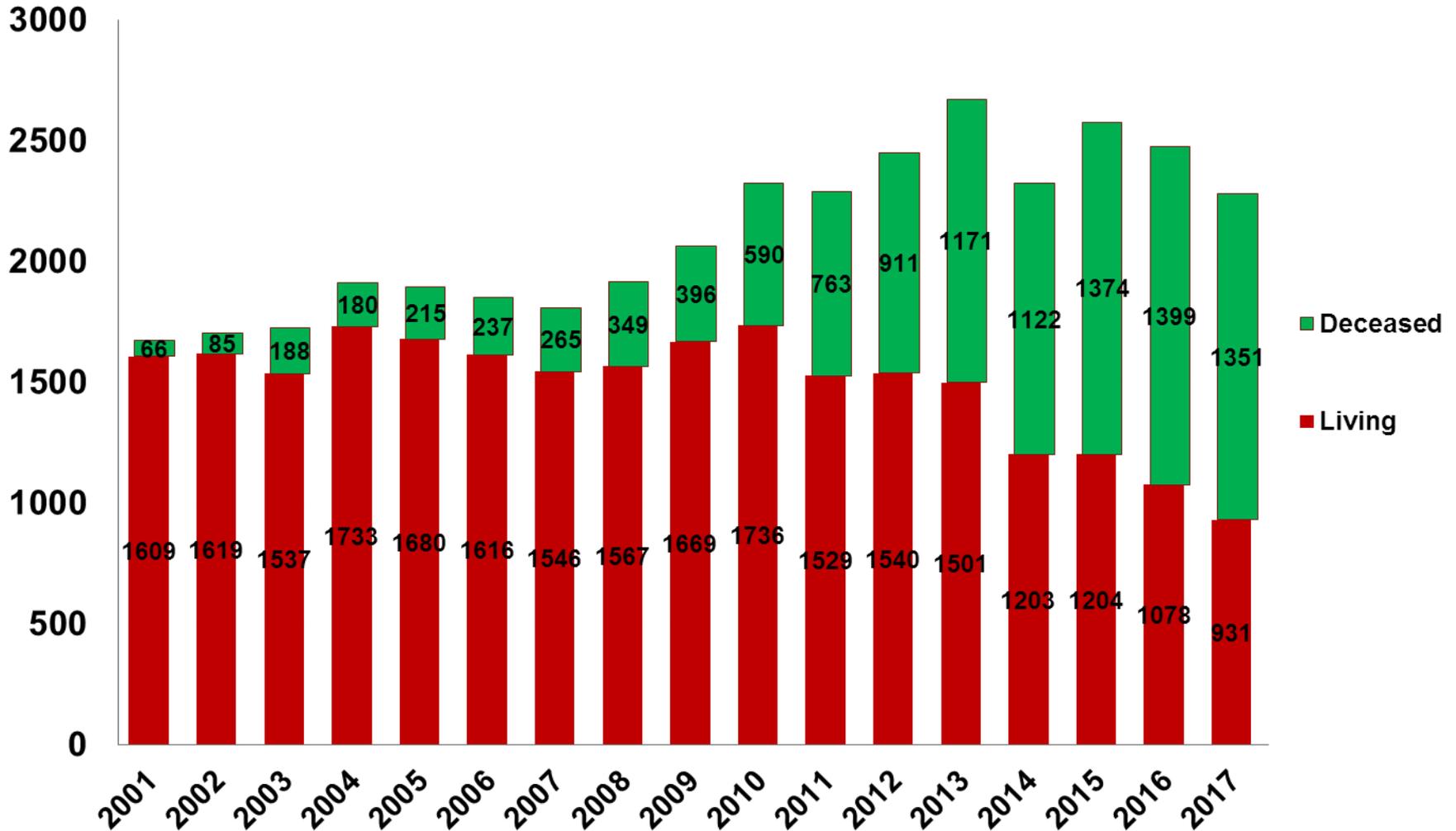
- Brings shortest waiting list in the world
- Saved more than 43000 lives. (50000 lost in US in 30 yr.)
- Many outstanding scientists in ethics and academicians, and social media people support the model:
  - Pr. John M. Barry, Past-President, USTRS, AUA, and ABU, Professor of Surgery, Oregon Univ.
  - Pr. B. Bastani, Professor of Nephrology, St.Louis Univ.
  - Sigrid Fry-Rever, Ethics Scientist, Michigan Univ.
  - Alvin Roth, Nobel Prize Winner in economy
  - T. Rosenberg, Pulitzer Prize Winner, Journalist



# Number of kidney transplantations 2001 - 2017

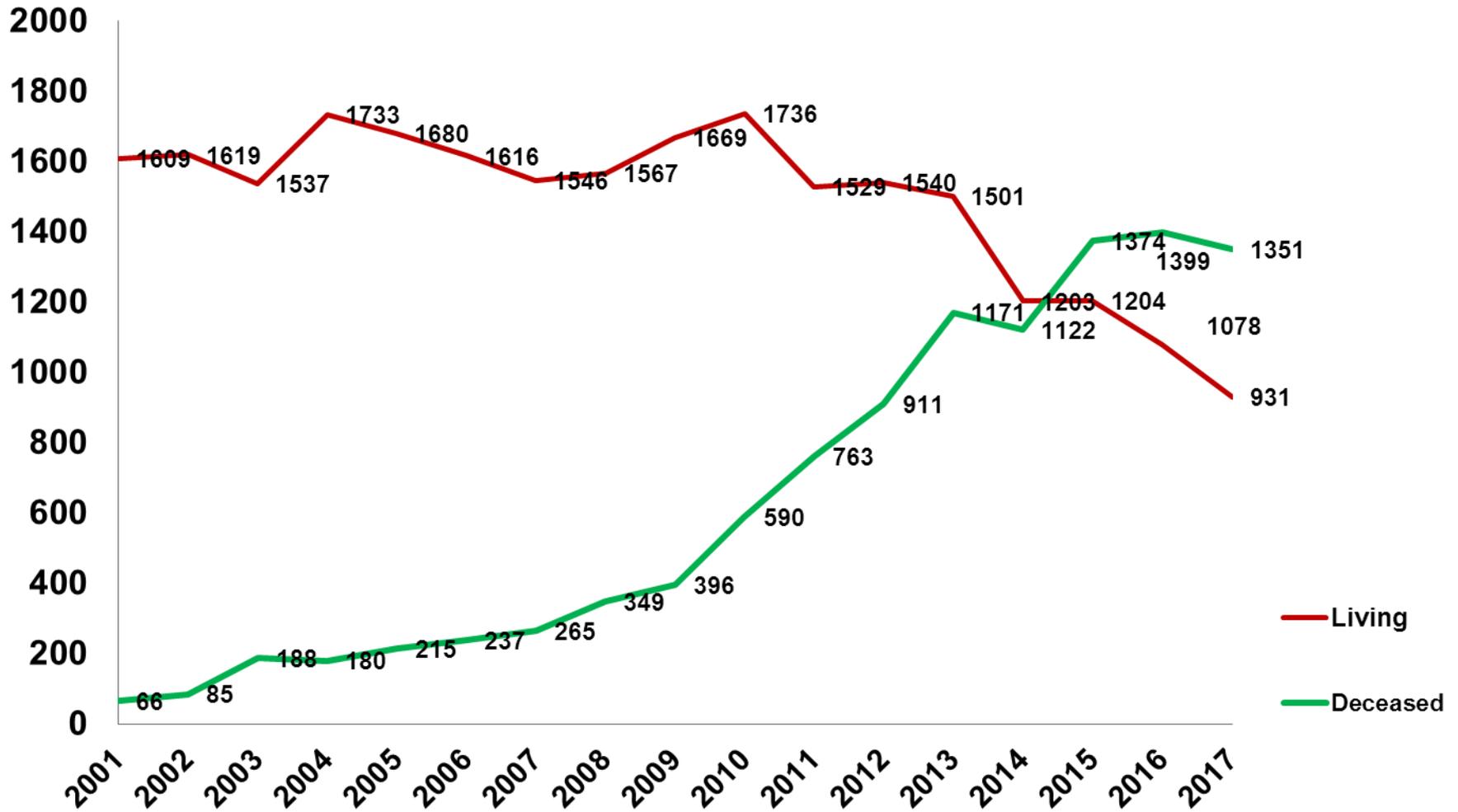


# Number of Living (32%) and Deceased (68%) Kidney Transplanations



Total number: 43,000 (Deceased 68% Living 32%: 2016)

# Comparison of Deceased and Living Kidney Transplantations



Total number: 43,000 (Deceased 68% Living 32%: 2016)

# Incidence of renal disease (2017)

- Yearly Growth rate for ESRD in Iran is about 6-8%
- 4000 patients are enrolled in dialysis every year.
- 3400 patients are transplanted every year.
- Both deceased and live donated kidney is transplanted mainly locally.



# Iranian Model: I- living KT 32%:

1. Transplantation for **foreigners** is strictly **illegal** (No Transplant Tourism)
2. Transplantation in **private hospitals** are **banned**
3. **Incentive** for donors is **legal**. Government gives a small incentive and the rest is given by recipient or charity foundation.
4. Process is under supervision of NGO-DTPA\* run mainly by dialysis & Tx patients.
5. **Medical team & Hospitals are not involved in the act of donation.**
6. **No middle man or institution can be involved (strictly illegal)**
7. **The only beneficiary is donor and recipient.**
8. Ministry of Health controls the whole process
9. **Waiting list** for living donation is **3-6 months** (mainly for admin. process).

\*DTPA (Dialysis Transplant Patient Association)



## Iranian model: II- Deceased Donor Program: 68%

- **Organ procurement** centers are located in major **Medical Universities**.
- Allocation and data registry is located in Head office in Ministry of Health (MOH).
- Transplantation is done only in University and major Governmental hospitals.
- **All** medical and surgical process is **free** for recipient and donor (paid by insurance companies).
- Iran is the most active country in deceased Tx in Middle East.
- **Waiting list** for deceased donor is **less than one year**.



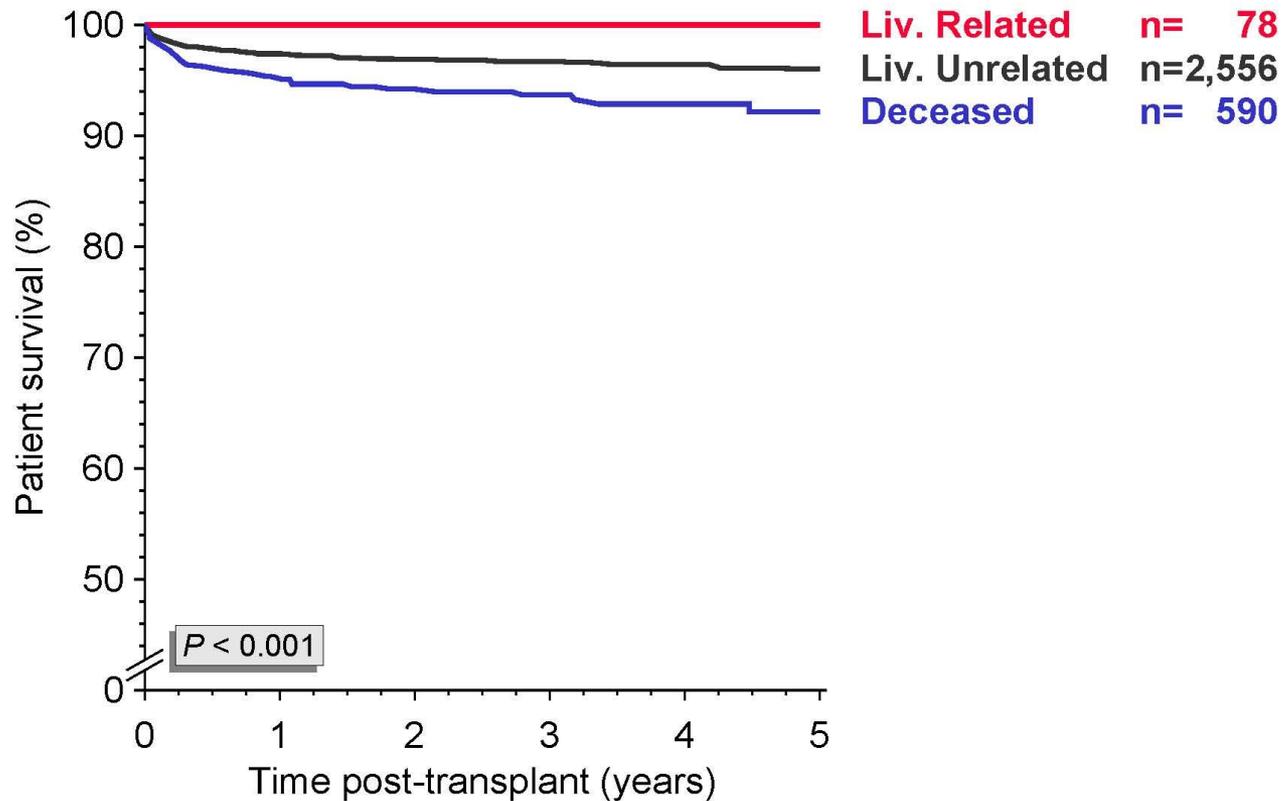
# Survival in a representative center

- Survival: (Shahid Labbafinejad Med. Center): CTS registry
- Pt. and Graft survival is **similar** between **living related and unrelated** (1 & 5 years).
- Patient and graft survival is **better in living** comparing deceased kidney transplantation.



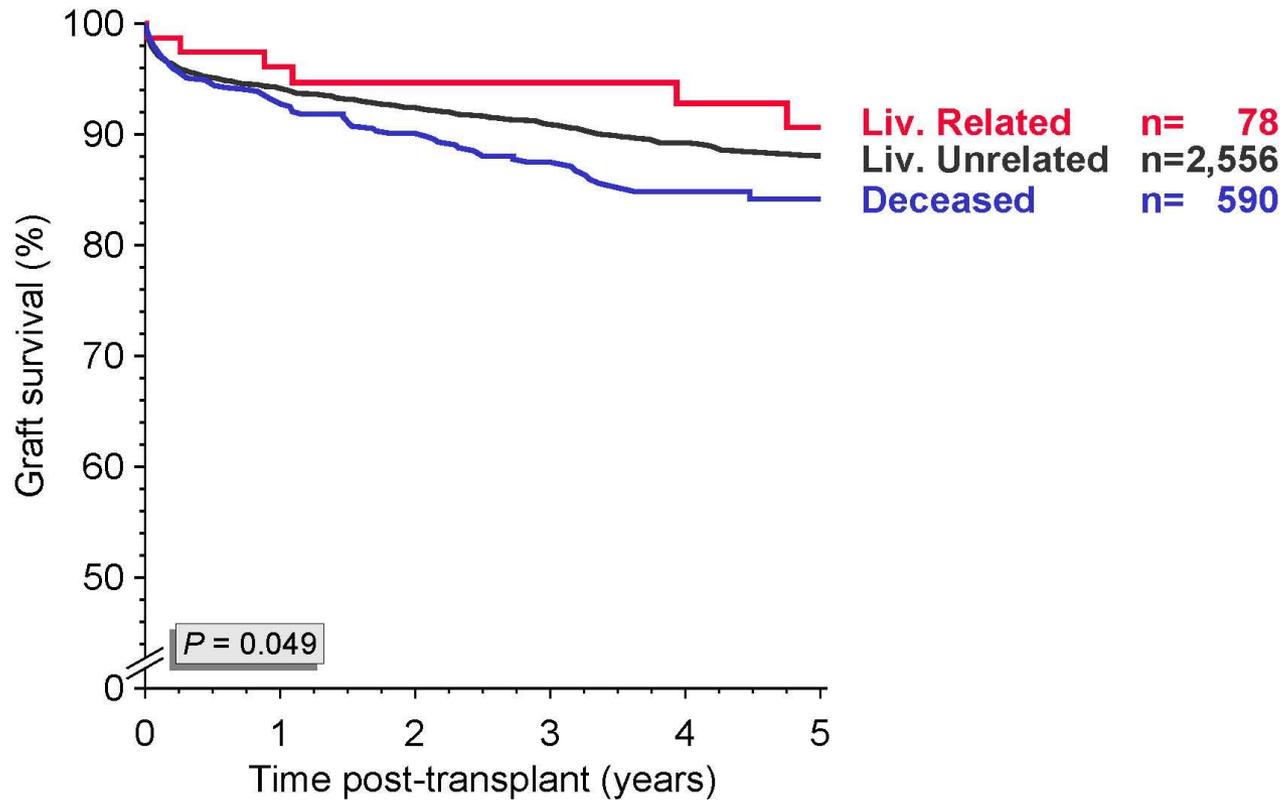
# Donor Relationship

## All Kidney Transplants 2000-2015 Tehran



# Donor Relationship

## All Kidney Transplants 2000-2015 Tehran



# Summary of updated **Iranian Model** in Kidney Transplantation: 1

- **Iranian Model**: First living unrelated started at Shahid Labbafinejad Hospital from a spouse to a husband. Successful results encouraged other centers in Iran to follow Iranian model of living unrelated KT, this brought the shortest waiting list.
- **43,000** kidney Tx is performed in **26 centers** (33 years since 1984).
- Transplantation for **foreigners** is strictly **illegal (no Transplant Tourism)** except for those countries with no transplantation program which needs written permission from ministry of health (MOH)
- **Deceased donorTx is the first priority (about 60 %).**
- Majority of recipients & donors are from the **same economical class** (over 60%)
- Living KT, **related and unrelated** is performed to further decrease the time on the waiting list.

Dear Nasser,

I am healthy and content (most of the time).

Your presentation was very well-received. The concept of paid living donors is one that I personally favor. I have included it in one of my PowerPoint presentations about transplantation for many years., although it has been met with concern by most. The principles outlined in the Iran approach to the problem are good. I think it is still a decade or so away from implementation in other countries. The results of kidney transplantation in Iran are quite remarkable and demonstrate what can be done with a quiet commitment to humanity and the cooperation of social, religious and government leaders.

Thank you, once again.

John Barry

John M. Barry, MD

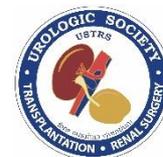
Past-President, USTRS, AUA, and ABU

Professor of Urology

Professor of Surgery, Division of Abdominal Organ Transplantation

The Oregon Health & Science University

Portland



USTRS 2017 Annual Meeting  
Boston AUA 2017

“Ethics is only a game for those  
who aren’t sick”

John Barry

Professor of Surgery, Division of Abdominal  
Organ Transplantation

The Oregon Health & Science University

[barryj@ohsu.edu](mailto:barryj@ohsu.edu)

# It's time to reward the gift of life

Bahar Bastani\*

\**Corresponding author:* Professor Bahar Bastani, Saint Louis University Hospital, Saint Louis, MO, USA.

- Understandably, it is difficult for US policymakers to admit that Iran may be doing something right. But the point is not that we should become like Iran, but only to acknowledge that we may learn something from that country's experience. To ignore that Iran has succeed at solving a problem that costs tens of thousands of American lives every year just because of our political differences is willful blindness.
- Enough American kidney disease patients have died. It's time to open our minds and learn from Iran.



# Important Ethical point:

- We as physician also have to think about and feel responsible for recipient's life: thousands lost every year around the world. (Simforoosh)
- Who is responsible?



# Conclusion:

1. All efforts should be made to enhance **deceased donor transplantation**.
2. We recommend the **“Iranian Model of Transplantation”** with legal incentive for donors in order to save thousands of lives in the waiting list around the world.

