

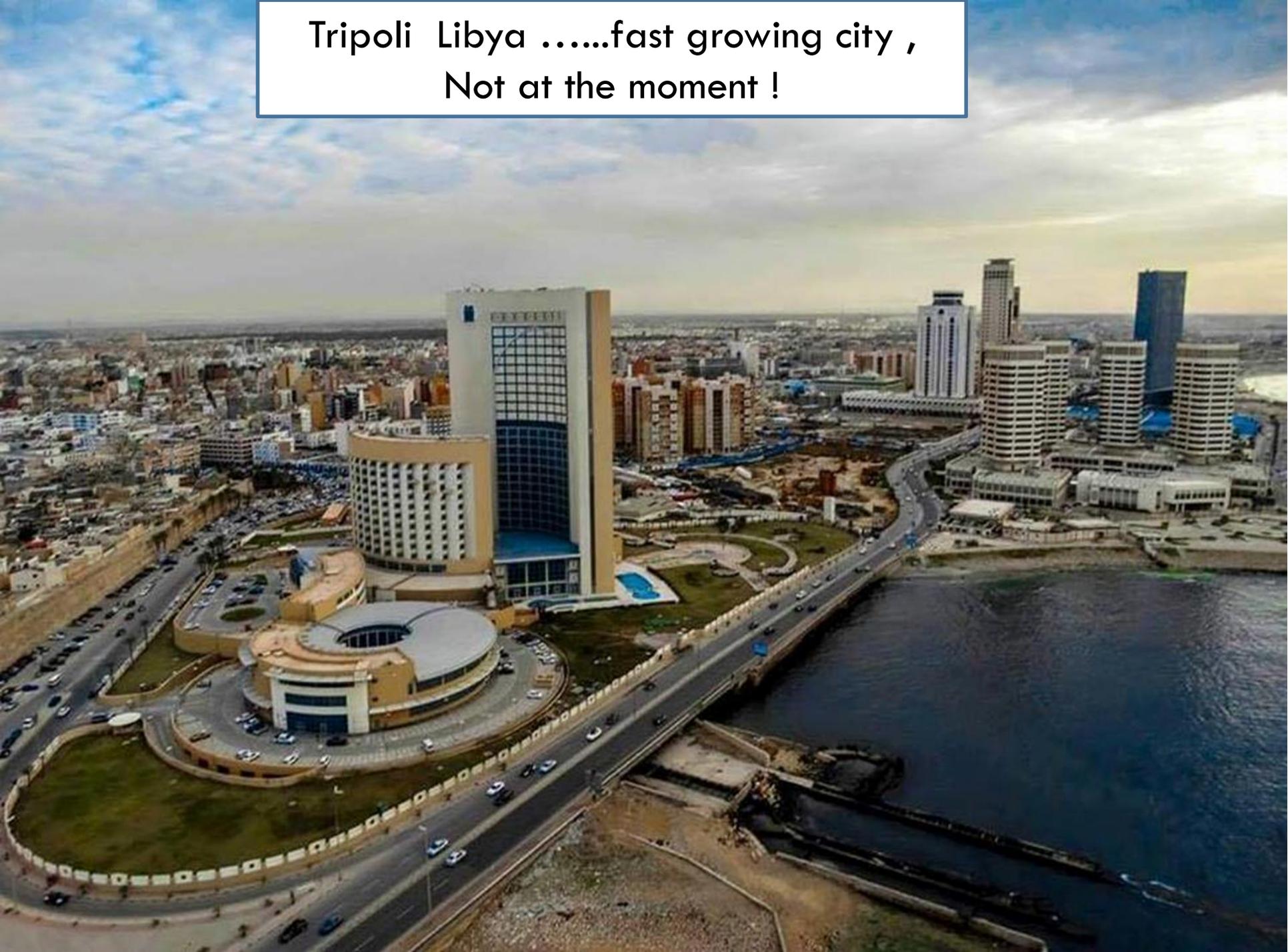
Libyan experience in Kidney Transplantation

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3rd GCC Organ Transplantation & nephrology congress

Tripoli Libyafast growing city ,
Not at the moment !



Objectives

- History of Kidney transplantation in Libya
- Results of LNOTP activities
- Special aspects
- Future planes
- Conclusions

History of kidney transplantation in Libya

Kidney transplantation in Libya has experienced two phases:

The first phase(1989- 1997)

Started in Alzahra hospital in which 63 living related kidney transplantation done.

However the program slowed down and stopped completely in 1997.. (63 cases in 9 years)

The second phase (2004- 2016)

After lag period of 7 years, a new national transplant program was launched again and 404 patients have been transplanted since then still the program is on

Libyan National Organ Transplantation Program LNOTP

In August 2004, started at Tripoli Central Hospital using the appropriate policies, procedures, and protocols.

During the first year of this program, 50 renal transplants from living donors were performed, which was an encouraging number of transplants performed comparing to other countries in the Middle East and North Africa .

Tripoli central hospital



This hospital was built during the Italian administration of Libya in 1910.

It was known as Vittorio Emanuele III Colonial Hospital

Among them was Tomaso Casoni (1880–1933) who practiced there from 1912 to 1932. He described a test for diagnosing hydatid disease

The current nephrology services in Libya



- Total Libyan population 6.5 million
- 4460 patient on regular haemodialysis
- More than 63 centre for haemodialysis
- More than 1000 transplanted patients
- Only one transplantation center in Tripoli central hospital

Prevalence and incidence of CKD in Libya

Across-sectional survey

Nearly doubling of pts. on HD in 8 years

year	2008	2015
Number of patients on HD	2357	4460
Number of HD centers	35	62
Number of HD machines	761	1404
Death rate	12%	?
Peritoneal dialysis	44 patients	

Burden of CKD in Libya

compared with other north African countries

	Egypt	Libya	Tunisia	Algeria	Morocco
Population (millions) ^a	83	7	11	35	32
GNI (US\$ as PPP) ^b	2070	12,020	3720	4420	2770
Incidence (pmp)	192	90	159	120	125
Prevalence (pmp)	650	323	734	475	300

Abbreviations: CKD, chronic kidney disease; GNI, gross national income; PPP, purchasing power parity.

^aMost recent census data.

^bWorld Bank data.

Rashad S. Barsoum

Kidney International Supplements (2013) 3, 164–166

Promising income in comparison to neighboring countries

History of nephrology in north Africa countries

BEGINNINGS OF NEPHROLOGY FACILITIES IN NORTH AFRICA

Country	Clinical nephrology	Renal biopsy	Chronic HD	Chronic PD	LRD transplant	DD transplant
Algeria	1962	1986	1978	1979	1986	2002
Morocco	1965	1980	1980	2004	1990	2010
Libya	1972	2005	1979	2005	1989	-
Tunisia	1963	1976	1975	1981	1986	1986

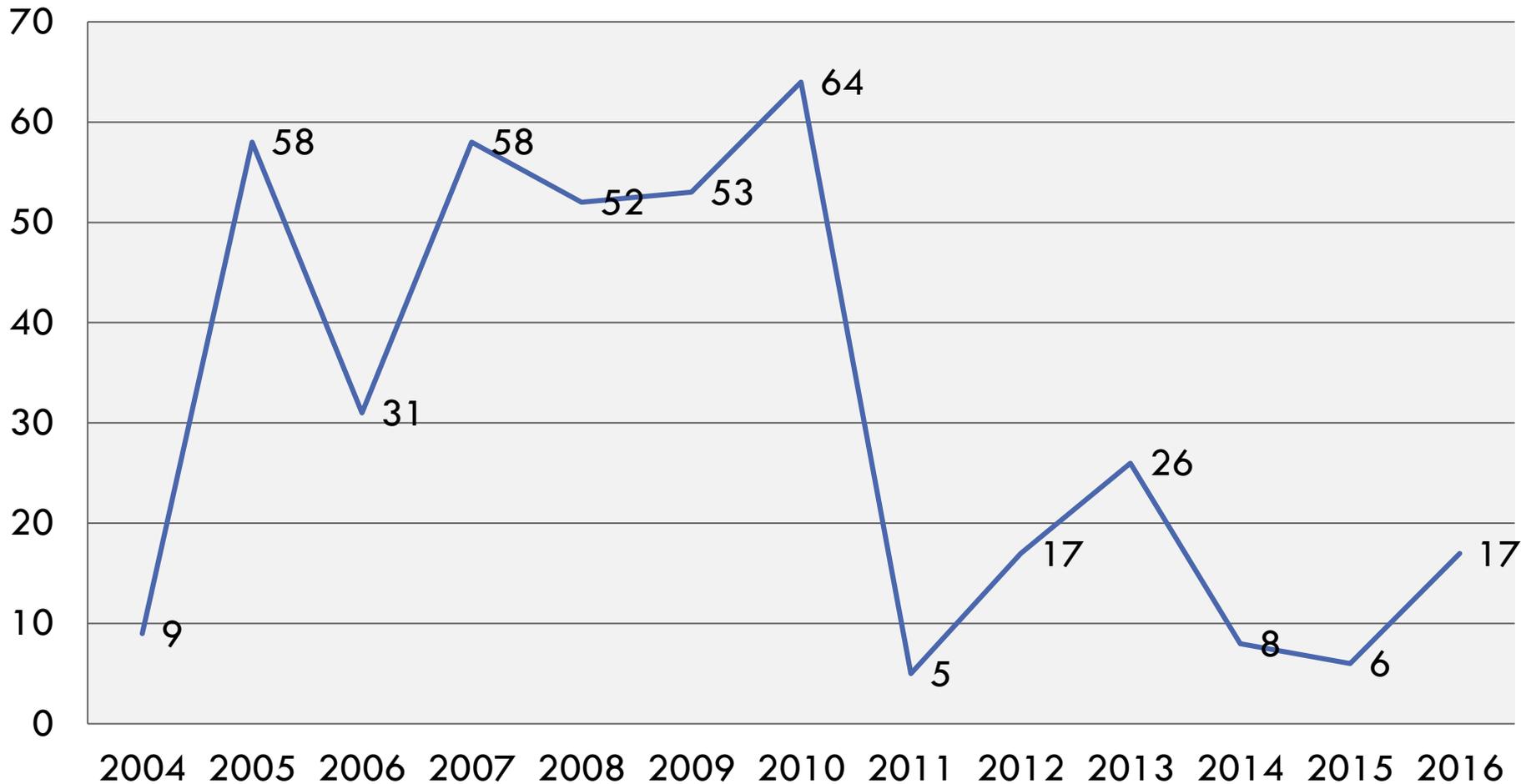
HD = hemodialysis; PD = peritoneal dialysis; LRD = living related donor; DD = deceased donor.

Aziz El Matri JNEPHROL 2013; 26(Suppl 22): S170-S174

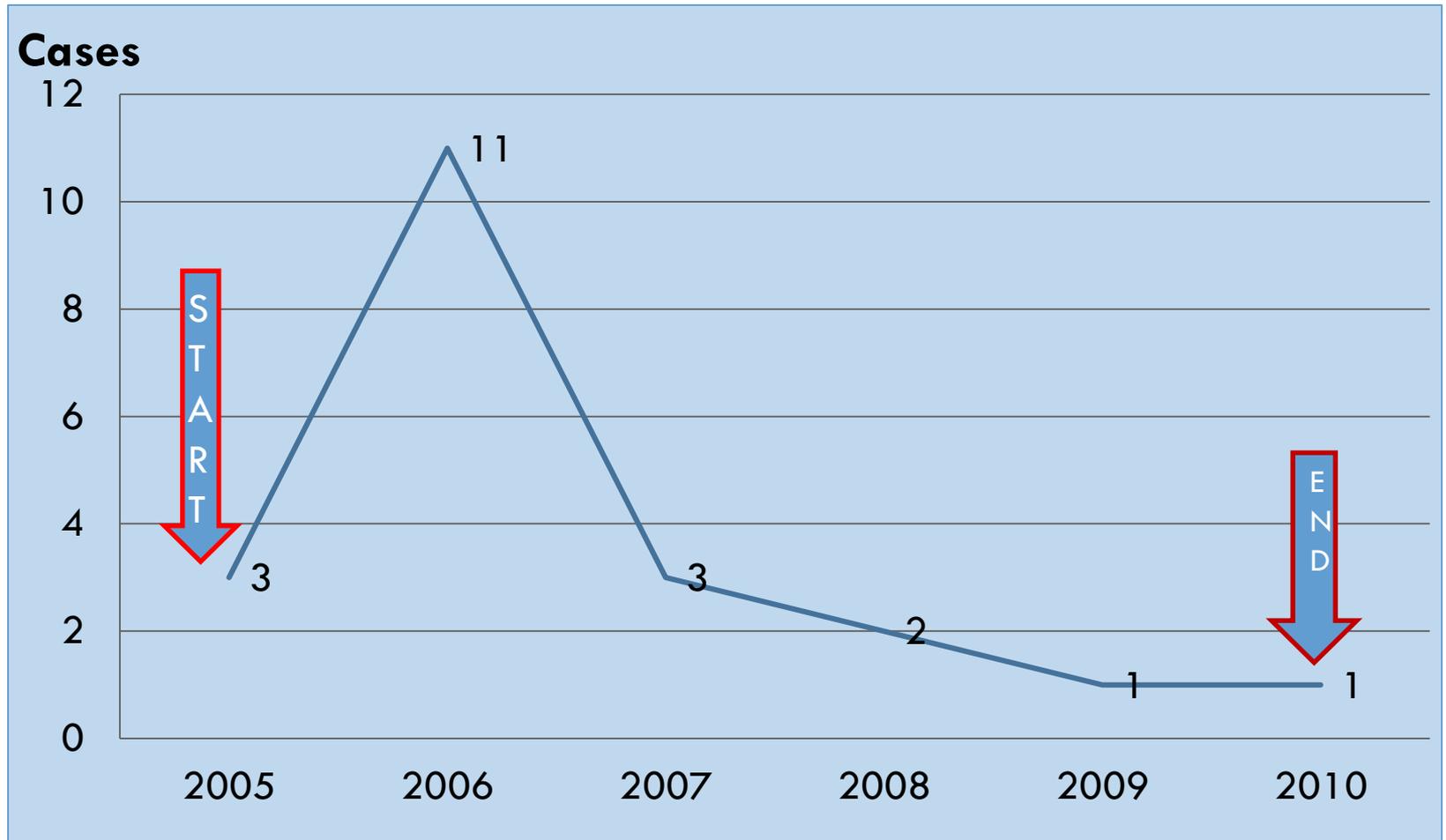
Libya late starting in nephrology services but nearly same in renal replacement therapy

Year wise kidney transplanted cases 2nd Phase (2004- 2016)

Cases



Year wise liver transplanted cases



Study of gender trends of kidney donors

Is Libya different ?

Study done from August, 2004 to January, 2010.

Most of the donors aged between 20 and 39. The most common donor recipient relationship was sibling–sibling (n=157; 59.1%) with a male: female ratio of 2.6:1.

Is the reported frequencies from our center different from other countries ?

Donor relation	number of male donors	Percentage
Brother to brother	116	44.1%
Brother to sister	46	17.5 %
Son to mother	31	11.8%
Son to father	42	16%
	235 /381	

HLA typing in organ transplantation.

The serologically based complement-dependent cytotoxicity (CDC) assay has been replaced by the Luminex technology for the last 65 transplanted kidney cases .

The Luminex system has revealed a lot of pre-sensitization in potential transplant recipients, permit a re-evaluation of the role of HLA antibodies in both early and late antibody-mediated rejection

Immunosuppressive protocols

Immunosuppression consisted of triple therapy in recipients having good match with the donor (steroids, tacrolimus / cyclosporine, mycophenolate mofetil (MMF)/Myfortic) induction immunosuppression with basiliximab (Simulect), (Novartis Pharma, Nurnberg,Germany) in all recipients.

Prophylaxis against the cytomegalovirus (CMV) was given to all patients who tested positive for IgG , then all patients were regularly screened for CMV IgM and IgG antibodies during follow-up.

Graft survival

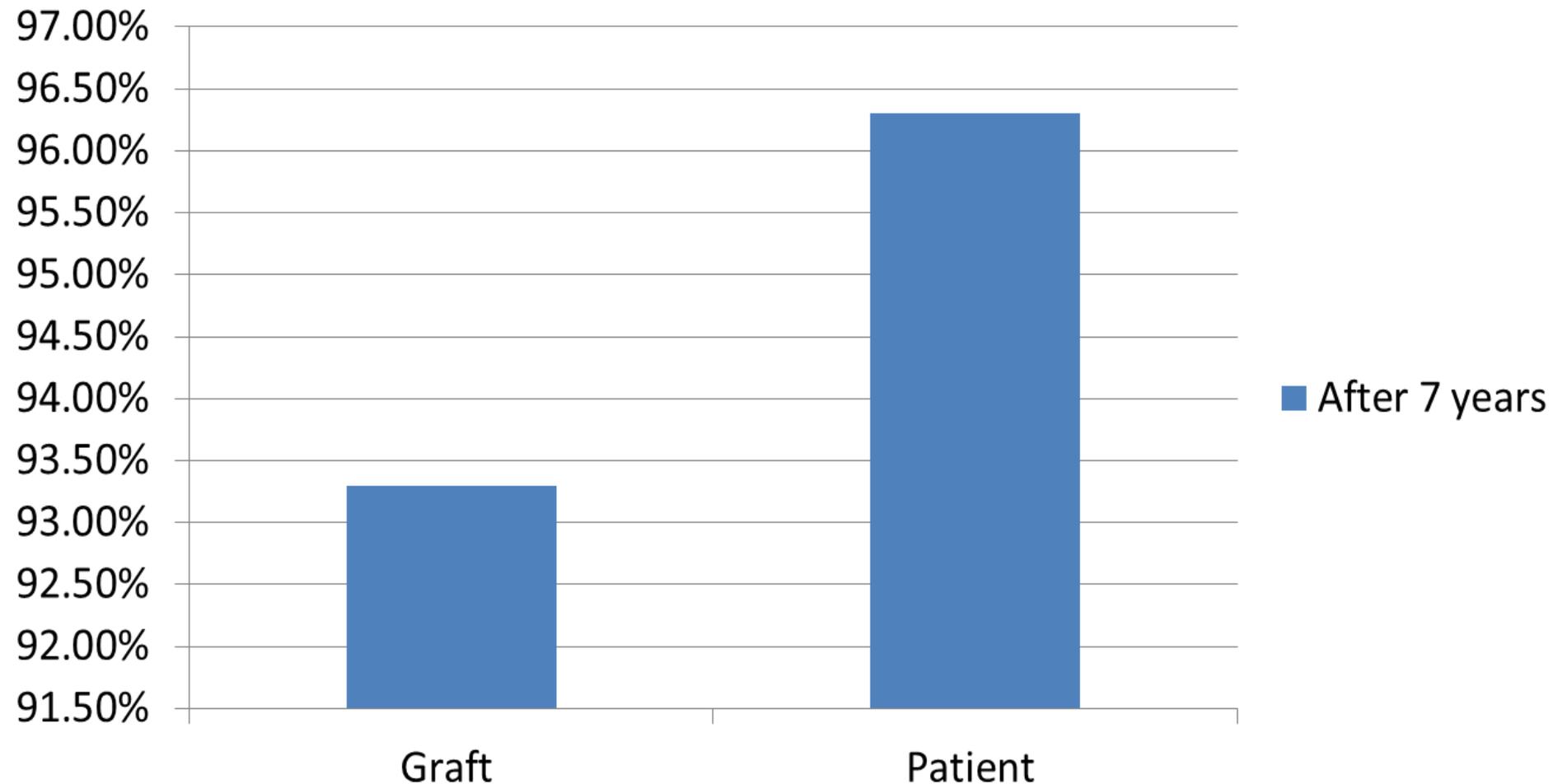
In order to maintain good record of our results , encourage new CKD patients for transplantation, and to improve the image of it , we decided to avoid serious risk factors that might endanger the outcomes of the program

We decided to start with low risk cases and avoid :

- 1- ABO incompatibility
- 2- High PRA
- 3- Difficult vascular comorbidity like sever atherosclerosis

Graft survival at first seven years from the period 2004 to 2010

After 7 years



Follow up publications over the course

Kidney Transplantation in Libya: A North African and Middle Eastern Perspective

*Ehtuish F Ehtuish,¹ George M Abouna,^{1,2} Abdul-Hafid A Shebani,¹
Tamer S Abdulmola,¹ Tayeb Z Shawesh¹*

Objectives: In August 2004, a national organ transplant program utilizing the latest policies, procedures, and protocols was begun in Libya. During the first year of the program, 50 kidney transplantations from living donors were performed.

Materials and Methods: Forty-nine patients (aged 7 to 65 years) received kidneys from living-related donors (aged 19 to 54 years), and 1 husband received a kidney from his wife. Donor selection was

have excellent renal function and are living normal lives.

Conclusions: In terms of patient survival and quality of life, transplantation is superior to dialysis. Also, transplantation is less expensive than dialysis. In Libya, establishing an active and successful transplant program with early steroid withdrawal has brought many benefits to patients and their families and great financial savings to the government. Our

Experimental and Clinical Transplantation (2006) 1: 425-428

3 years 135 kidney transplantations

Saudi J Kidney Dis Transpl 2008;19(5):831-837
© 2008 Saudi Center for Organ Transplantation

**Saudi Journal
of Kidney Diseases
and Transplantation**

Renal Data from the Arab World

Living Related Donor Kidney Transplantation in Libya: A Single Center Experience

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ABSTRACT. The aim of this study is to report the experience from a single center in Libya, on the prevailing live-related kidney transplantation program. The results of three years work on kidney transplantation at the Tripoli Central Hospital (National Organ Transplant Program) in Libya were evaluated. The transplant program was launched on 17th August, 2004 and 135 patients have been transplanted since then till 17th August, 2007. All donors and recipients were screened thoroughly prior to transplant and monitored closely in the post-transplant period. Our immunosuppressive protocol was cyclosporine-based. Among the 135 accepted pairs, donors and recipients were genetically-related in 133 cases (98.5%) and emotionally-related in two others. The

Recipient management and follow up

The duration of hospital stay for the donors was four to six days with a mean stay of 4.5 days and for recipients, it was eight to 24 days with a mean stay of 14 days.

Kidney function at the time of discharge was acceptable with serum creatinine values of 1.1 ± 0.5 mg%.
last follow-up, all donors were in excellent health and back to their normal life.

Special aspects

1-Early steroid withdrawal.

2-Low Incidence of post transplantation DM

3-protocol biopsy

Libyan protocol

- Steroids has the potential for side effects . Hypertension, diabetes, and hyperlipidemia all can be aggravated by their use.
- Early withdrawal of steroids in 30 days has been applied to all patient
- No clear evidence for long term effect on the graft function after steroid withdrawal

Incidence of post transplant DM

We studied 252 post kidney transplantation patients between 2004 -2009 checked for diabetes by measuring their fasting plasma glucose

8 patients (3.2%) found to have diabetes mellitus (plasma glucose >126 mg%)

14 patients (5.5%) found to impaired fasting plasma glucose: (plasma glucose > 110 mg% and < 126mg%)

Post transplantation Kidney Biopsy

- Protocol biopsy : not practiced
- Indication :only if
 - 1- Abnormality renal parameters(urinary o biochemist.)
 - 2- Alteration in resistive index by Doppler study

Results of kidney biopsy from transplanted patients

Total number is 80 kidney biopsies from 2012 to 2014

DIAGNOSIS	VALUE %
ACUTE CELLULAR REJECTION	4%
ACUTE CLACINEURIN INHIBITOR TOXICITY	8%
CHRONIC CNI TOXICITY	16%
ANTIBOY MED. REJECTION C4d positive	14%
RECUR. FSGS	2%
OXALATE CRYSTAL DEPOSITION	2%

Care and follow ups

Recipients

- Weekly regular visits for routine investigation including drug levels ,graft ultrasound during the first month then monthly afterwards
- Any sudden change of renal profile will subject the patients to admission for further investigations including kidney biopsy.

Care and follow ups

Donors

None of the donors developed any renal disease post-nephrectomy.

We are following up all our donors with routine 6 monthly serum creatinine and urine analysis.

Current plans

Try to hold on with what we have gained over the last few years of our level of activities and try to catch up when ever situations allows .

Recruit new doctors to widen up the base of the program.

Plan to focus on the expansion of the available pool of donors including the emotionally related living donors.

Conclusion

- The National Organ Transplant Program in Libya relatively started late and still facing a lot of challenges
- Commercial transplantation still an option to many affordable CKD patients and creating a real threat to the program

A nighttime photograph of a city skyline reflected in a body of water. The buildings are illuminated with various colors, including yellow, white, and blue. The sky is dark, and the water shows a soft reflection of the lights. In the foreground, there are dark rocks and a small patch of greenery.

Thank you

There is a light at the end of the tunnel