# History and current status of kidney transplantation in Azerbaijan

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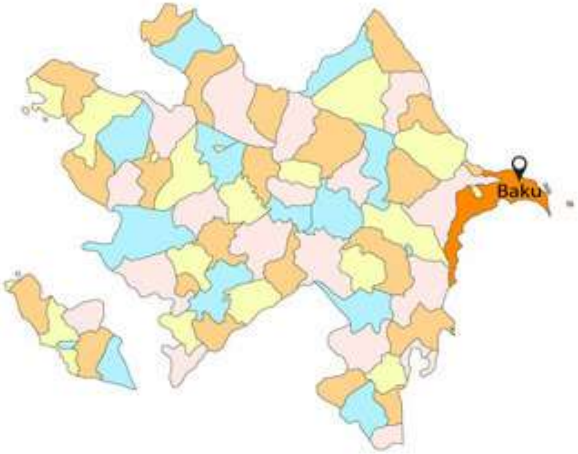
**The Kidney and Solid Organ Transplantation Advancement Strategy: Roadmap for Transition from Living Donation to Cadaveric Transplantation**

The first joint conference of the South Caucasian countries: Armenia, Georgia, and Azerbaijan

*13-14 September, 2023*
*Tbilisi State Medical University Main Hall*



# History...

- The history of transplantation in the Republic of Azerbaijan dates to 1971.

- The first time in the region including Iran and Turkey

- First kidney transplantation was performed by Dr. Mirmammad Javadzadeh

- 20 Tx , 4 cadaveric 16 living donor (1971-1980)

- From 1980 to 2000 - No Kidney Transplantation program

## Kidney transplantation patients…

- In 2002 (the period of independence), 5 living donor kidney transplant procedures were performed by Drs. Kamal Abdullayev and Akif Bagirov, with Iranian colleague Dr. Ali Tagizade, at the Republican Clinical Hospital

- From 2005 to 2009, Drs. Kamal Abdullayev and Ali Tagizade performed 21 living donor kidney transplant procedures

## Kidney transplantation patients…

- In 2010, kidney transplant was resumed at the Republican Clinical Urological Hospital.

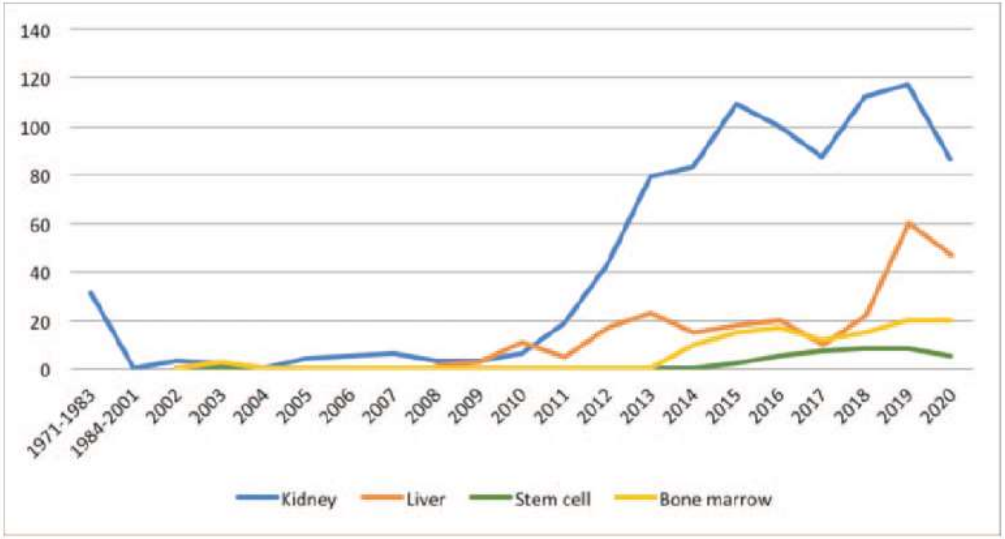
- Drs. Shahlar Nasirov  and Turkish doctor Dr. Shener Yilmaz started living donor kidney transplant and performed 55 kidney transplants from living donors until 2016.

Clinical Urological Hospital after M.Javadzada

## History…Reestablishment of organ transplant center, in Central Hospital of Oil Workers, Baku

Living donor liver and kidney transplant program by local specialists were initiated in Hospital of Oil workers under leadership of the Dr. Mirjalal Kazimi

- 2008 – living donor liver transplantation
- 2010 – 2019 (506 p) living donor kidney transplantation
- 2019 – 2023 Central Custom Hospital (207 p)




Transplant activity in Azerbaijan

Central Clinic Hospital - Baku

Central Clinic - Ganja

Central Hospital of Oil Workers

Azerbaijan Medical University

Cental Customs Hospital

Clinical Urological Hospital after M.Javadzada

Republican Treatment and diagnostic center

# Law and legislation …

- In the pre-independence period, the legal basis for organ transplantation in Azerbaijan was based on Soviet legislation.

- After independence, the law "on transplantation of human organs and (or) tissues," which had been approved by the Milli Majlis in the late 1990s, came into force after being signed by the President of the Republic of Azerbaijan, Heydar Aliyev on October 28, 1999

- This law allowed human organ transplantation from living and deceased donors and was guided by internationally accepted principles

- Changes in legislation on organ donation, in 2019 "Law on Transplantation and Donation."

(the important aspects of the new law is the establishment of the Ethics Commission and consent for organ procurement from deceased donors

✓ The cadaveric transplantation programme still does not initiated, we are seeking to launch

- A public legal entity "Coordinating Center for Organ Donation and Transplantation" has been established under the Ministry of Health of Azerbaijan in 2022

## Kidney transplantation patients…

- Total number of transplant patients in Azerbaijan (August 2023)

- 1206 kidney (9p.m.p)
- 354 liver
- 7 heart

- Hemodialysis / Peritoneal dialysis patients (August 2023)

- 3914
- 1386 Baku city
- 2528 in regions

## Single Center Experience…

2010-2023… Kidney transplantation

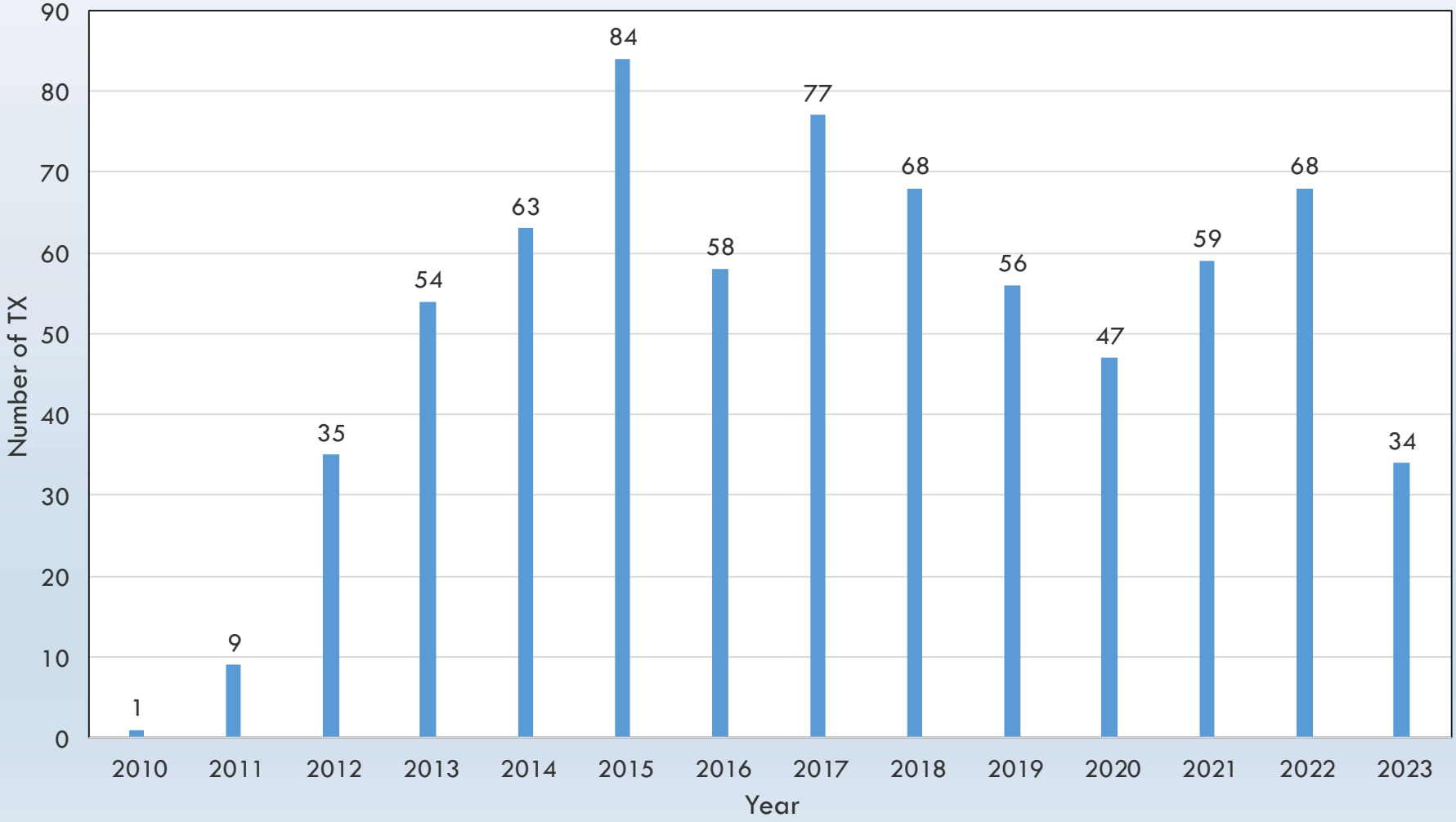
- A total of 713 related living donor kidney transplantation (52 - 7.2% pediatric cases)

- The average age of recipients was 33.2 years (4y – 69y)
  (male 475 (66.6%) / female 238 (33.4%)

- 158 cases (22.1%) were preemptive transplantation
- 18 patients (1.53%) retransplantation
- One patient 3rd transplantation was performed

Single Center Experience…

# 2010-2023… Kidney transplantation

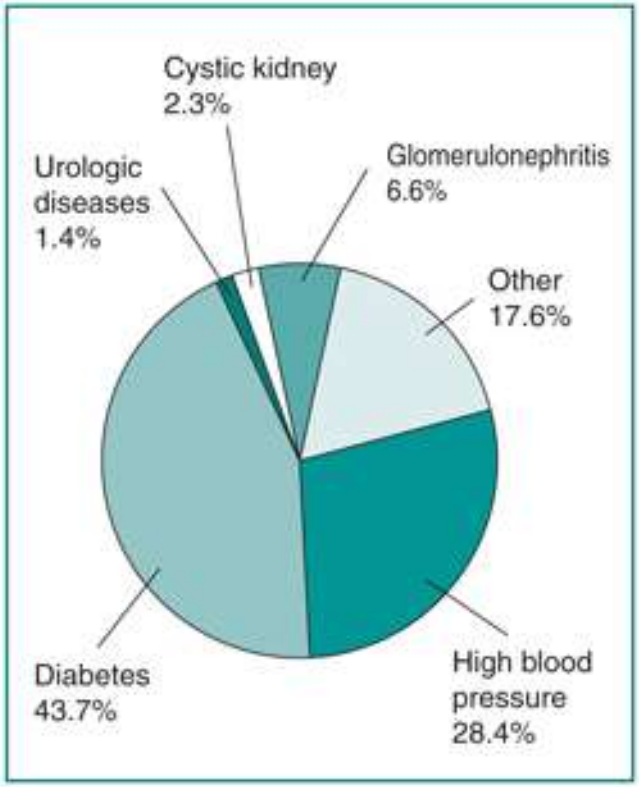


## 2010-2023… Kidney transplantation

- Chronic glomerulonephritis was the leading cause of end stage renal disease (ESRD)

✓FMF – 26 (3.6%) cases
✓ADPKD – 28 (3.9%)
✓ALPORT 11 (1.54%)

Rare disease
Fabry -1, Bardet-Biedl (BBS) -1
Nail-patella -2, MWS 1.

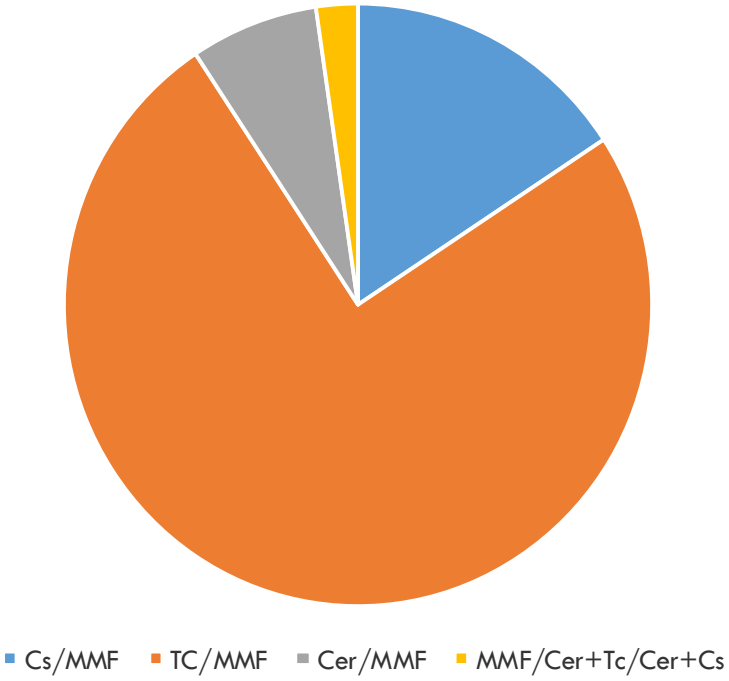


# Immunosuppressants …

- Induction - mostly Basiliximab (Simulect)

- Maintenance

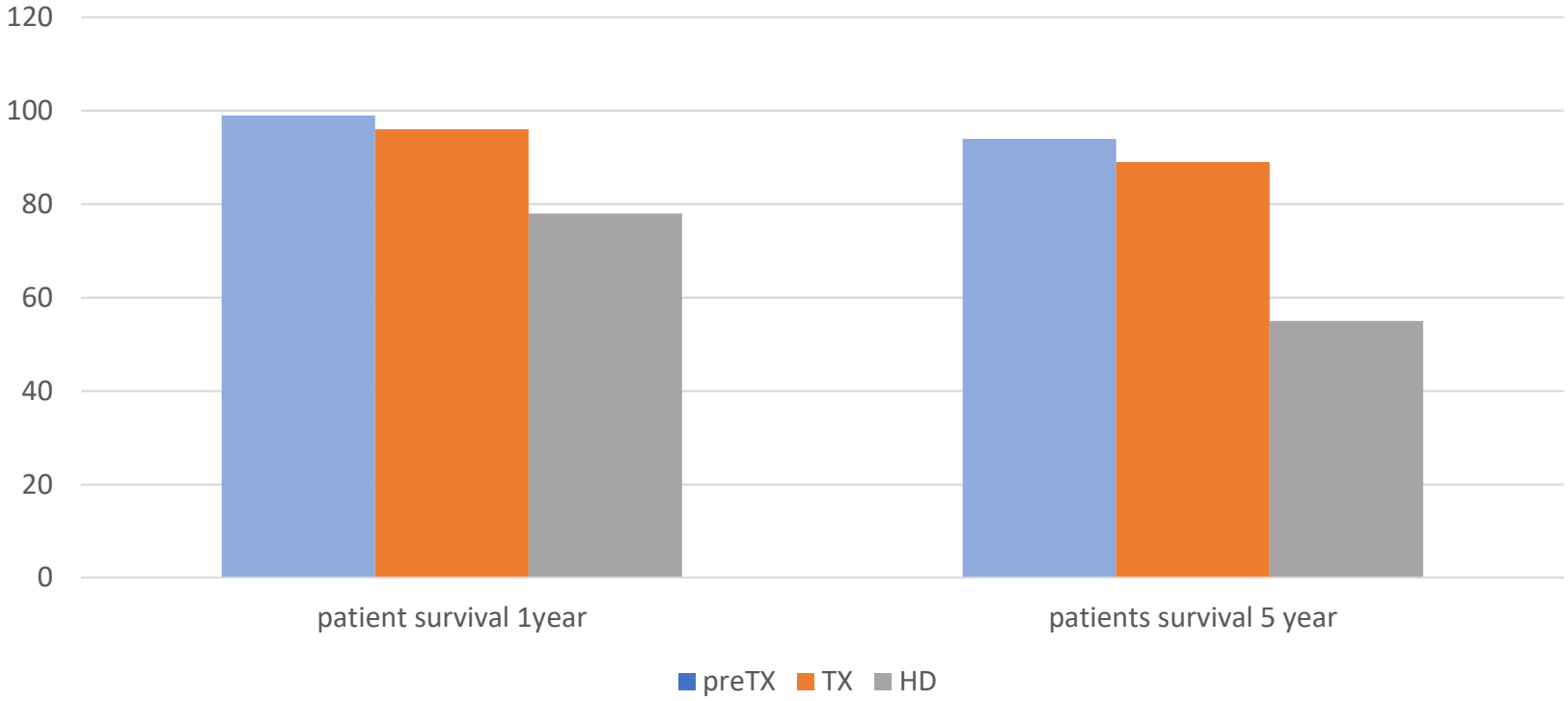
1. Tc/MMF/Pr 538 patient (73.25%)
2. Cer/MMF/ Pr 110 patient (15.4%)
3. Cs/MMF/Pr 49 patient (6.87%)
4. MMF/Cer/Tc - 16 patient (2.24%)



## Patient survival for PreTX / HDTX/ HD …1st & 5 y.

The overall patient survival was **96%** for 1st y. & **89%** after 5y.

- ✓ (For Preemptive Tx – 99% (1st year), 94% (5 year)
- ✓ Infection is the major factor that affects the survival rates
- ✓ 17 patients died from COVID-19

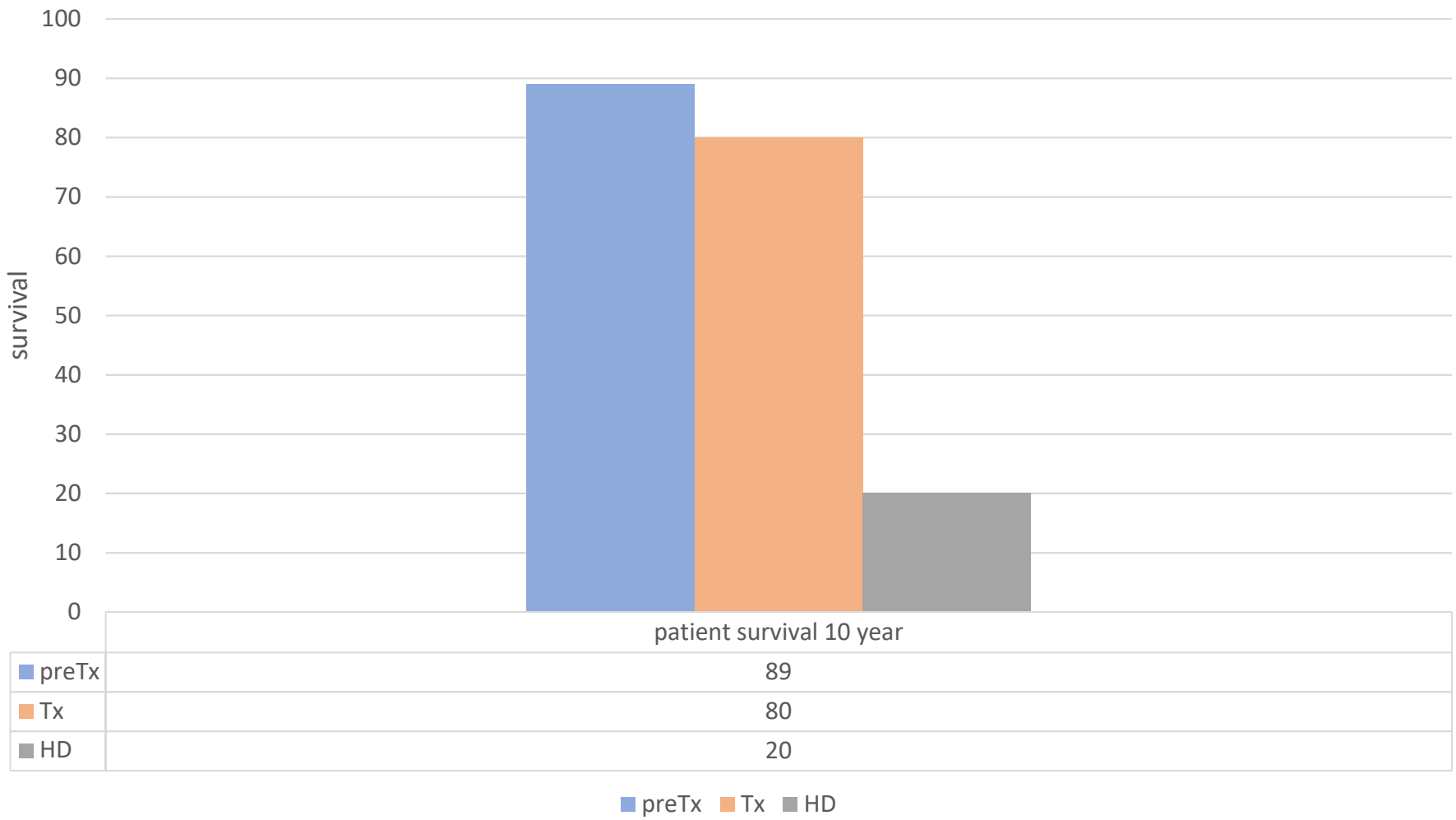



| | | | |
|---|---|---|---|
| patients survival 1year | 99 | 96 | 78 |
| patients survival 5 year | 94 | 89 | 55 |

## Survival patient …10years...

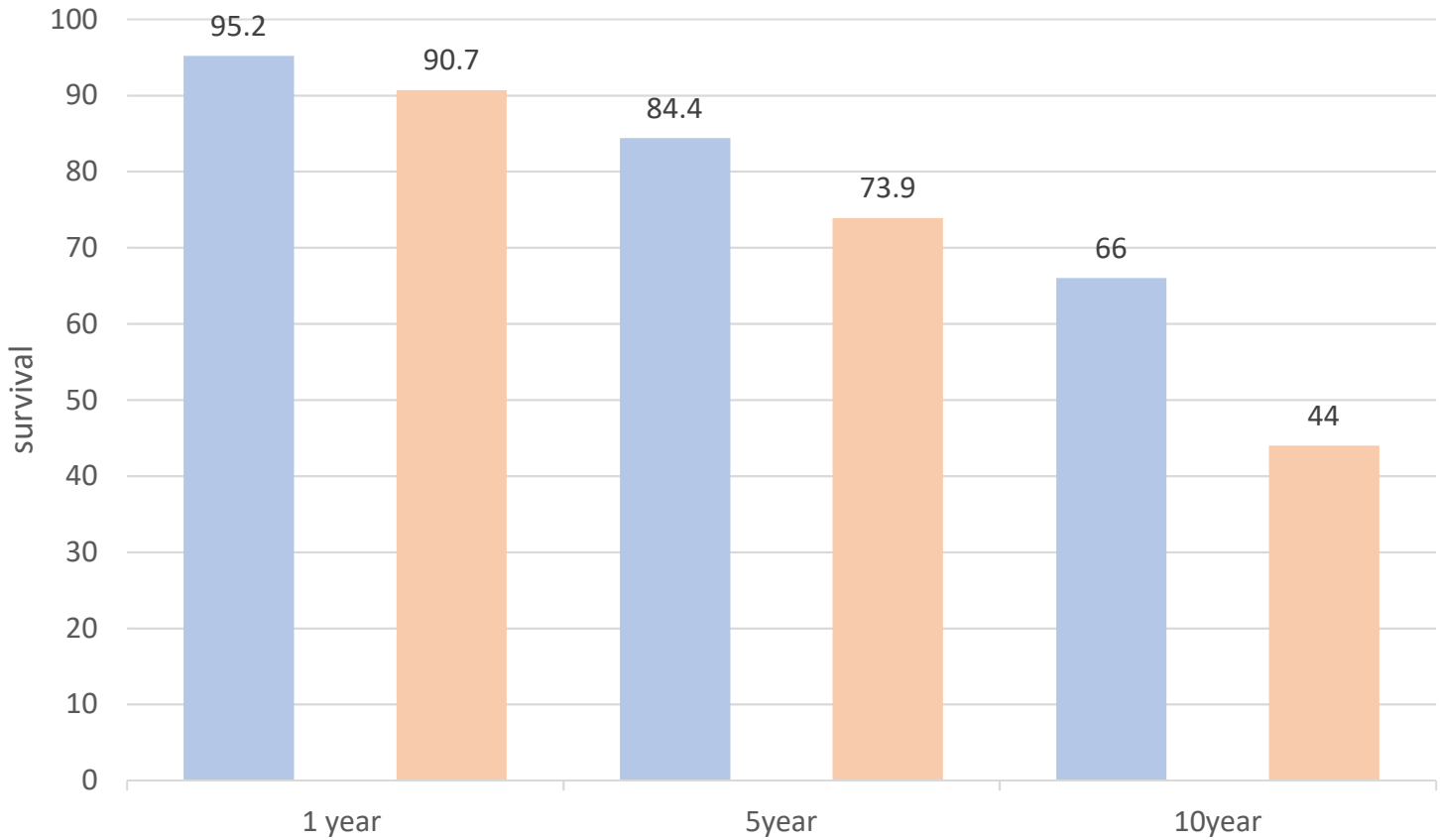
The patient survival for 10 years (74p) was 80.2% (preTX 89%)

- **3p Cancer (Bladder CA, MM, spinal PNET (14 y.o.)** 4p – Kaposhi sarcoma , lp -lymphoma



## Graft Survival…2010-2022

| | 1st year | 5th year | 10th year |
|---|---|---|---|
| Graft survival | 95.2% | 84.4% | 66% |
| Overall g/p survival | 90.7% | 73.9% | 44% |



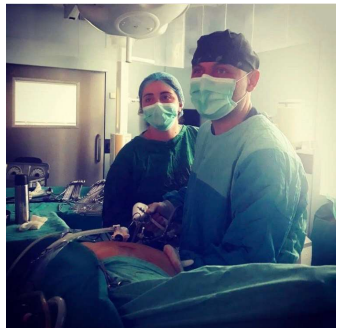
## Resipients….morbidity

- Acute rejection incidence - 10.2 % (1000Mps./ ATG)
- Delayed GF – 1.22 % ( 14 ±3.4days)
- BKV /JC nephropathy 4.4% (biopsy proven)
- CMV – 3.5% (Cymevene)
- NODAT 2,1%
- FSGS recurrence (< 6 month) 1.12%

## Donors…living related

- Accept only related donors.
- Donor nephrectomy was done through
- open surgical approach for 1st - 131 (18.4%) cases
- laparoscopic and in 582 (81.6%)
- Age 46 ± 6.2 (21-75)
- No serious complication
- Majority of the Donors were female 67%

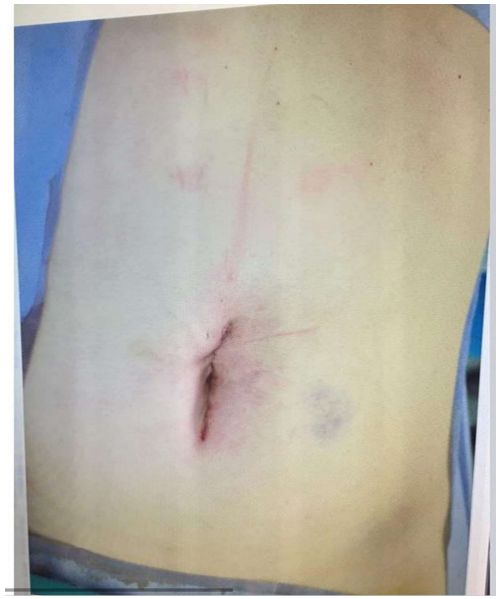
Donor nephrectomy.., laparoscopic surgery



**Hand-assisted – 470 / Pure- 110 / Single port access – 2 donor**

*Pro.* Significantly reduced post-operative pain and length of stay (2-3 day) more rapid recovery and return to work (2.5 week)

*Cons.* More expensive



# Elderly donors…

The grafts from elderly donor > 70years - 16 cases, preferably for pediatric cases

Oldest - 75 y.o.

- ✓ 75 y Donor (mother)
- ✓ 53 Resipient (daughter)

(13 year HD)

Donor age 84 (2023)

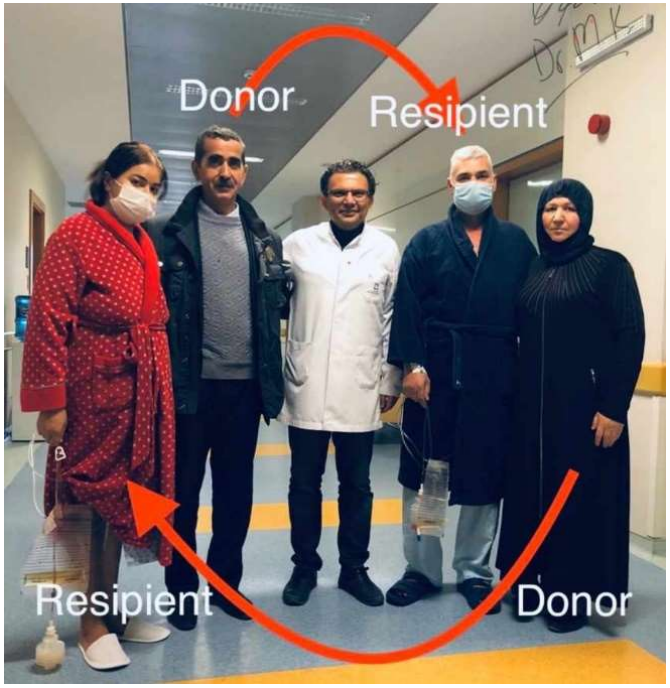
Frank Dewhurst became the oldest living kidney donor at 84, after donating his kidney to his neighbor, Linda Nall.

## Paired Kidney / Liver exchange…

- No ABOi transplantation

- Kidney - kidney (ABO – A / B blood types) – since 2016
  - 14 transplantations

- Kidney – liver (for ABO (O) types kidney resipients) – since 2021
  - 1 case



## Combine / Simultaneous Liver  Kidney transplantation….3 patient

- Combined liver-kidney for 3 patient

  Cirrhosis(HCV & DM)

  Primary Oxalosis

  Cirrhosis & Nephrolithiasis

- kidney after liver transplantation for 2 recipients

## Resipients … Heart surgery

- Simultaneous open heart surgery due to central venous catheter-related right atrial thrombosis and kidney transplantation were performed for three patients

- Simultaneous CABG & KTX for 3 patients

Pre Renal TX for cardiac high risk patient

- Angioplasty/ stenting – 19 cases

- Mostly Diabetic patients

- Waiting time for TX 4-6 month.

CABG & KTX 41y.o.
Bardet-Biedl syndrome (BBS)

1st. pediatric Renal Tx (2013year)
(8 y.o. h -110 / w - 15kg / HD- 1year / HCV–pos.

- For a total of 52 pediatric cases (7.2%)

➢ 3 year graft and patient survival is 100%

2013

2017

2022

# Kidney transplantation… Pregnancy

- 12 cases of pregnancy
  (for one patient multiple, one patient two pregnancies)
- Childbirth – 12 patients (one patient MOH)
- All patients had C-section (high degree of clinical caution)

World Transplant Games Federation

Established in 1978,
World Transplant Games Federation
is a worldwide organisation with representation from more than 60 countries

XXI MÁLAGA • SPAIN WORLD TRANSPLANT GAMES 2017

# Social activity / projects …

``Return to normal life``

A football match doctors and patients who underwent kidney and liver transplantation.

# Thank you for your attention....