

Rehabilitation of Patients with CKD – a Hungarian Example

21th Budapest Nephrology School
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Hungarian National, Cross-sectional Survey of Dialysis Patients (2006)

Polner et al. Clin Nephrol 2011.

Characteristic	Total sample (n = 3,563)
Age, years (mean \pm SD)	62 \pm 14
Level of education (%)	
\leq 8 y	43.5
8 – 12 y	45.4
> 12 y	11.1

Psychosocial characteristics

Marital status (%)	
Married or common-law	56.9
Living status (%)	
Alone	18.0
With family	79.2
In institution	2.8
Self-reported financial situation (%)	
Good	39.4
Fair	40.1
Poor	20.4

Psychosocial characteristics

Occupation (%)	
Full-time employed	2.8
Part-time employed	3.1
Homemaker	1.2
Retired	46.3
Disability pension	46.1
Unemployed	0.5
Occupation < 65 y (%)	
Full-time employed	5.0
Part-time employed	5.4
Homemaker	1.4
Retired	14.0
Disability pension	73.3
Unemployed	0.9

Self-reported functional status

Comorbidities (presence, %)	
Diabetes	30.2
Acute myocardial infarction	19.0
Cerebrovascular disease	18.8
Limb amputation	8.4
Limitations in everyday activities (%)	
Walking without help	58.4
Climbing stairs	68.4
Bathing/clothing without help	43.9
Functional impairments (%)	
Mobility	44.1
Visual	43.8
Auditory	17.2

Evaluation of the Hungarian Survey

- ▶ ESKD patients
Very often have other organ impairments
⇒ frequently lead **serious disability or handicap**
- ▶ **Their functional status is low;**
⇒ their ability to carry out daily activities, even self-maintaining is limited
- ▶ Most of them have **severe psychosocial problems**
- ▶ They need **help** – optimally in holistic approach, and **complex rehabilitation**

Complex Rehabilitation

The aim of the rehabilitation:

- repair the previous capability of the patients
- restore their earlier functions,
- their positions in the family, in their jobs and in the community.

The most important in this process is

- the assesment of the remained abilities and potentials,
- and help them to build up a new life.

Complex Rehabilitation

The parts of the complex rehabilitation:

Medical rehabilitation

(the most advanced medical treatment)

Social rehabilitation

(helping in social and financial problems)

Occupational rehabilitation

(help to return to work, or in everyday activities)

Educational rehabilitation

(teach the patients and their family to coping with their diseased life)

Rehabilitation needs to be started **as early as possible**,
optimally during predialysis care



Individualized rehabilitation programme

From the beginning of patient's care until his death

Predialysis care

Secondary, tertiary prevention – education
– compliance, modality selection – Tx!

Individualized schedule for dialysis

(modality, dose, timing)

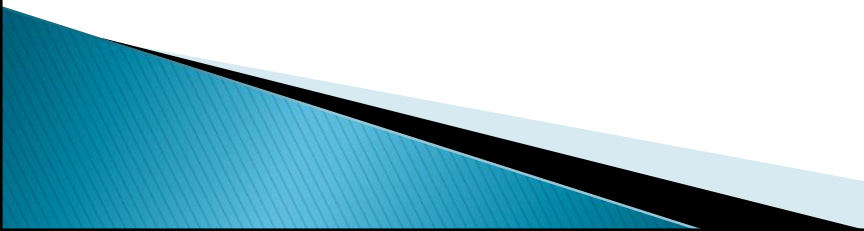
Individualized rehabilitation plan – teamwork

Continuous evaluation of the results – further
assessments of the condition – modification of
the programme

The 2012 Budapest Declaration of the IFKF

„....develop and implement, as a priority, comprehensive programs for the **screening, prevention, treatment and rehabilitation** of individuals living with chronic kidney disease.”

„....in a **holistic manner**, to achieve the best health **outcomes**, including **rehabilitation** and **quality of life**.”



EDUCATION AND LIFE STYLE CAMPS FOR PATIENTS AND THEIR RELATIVES IN DIÓSJENŐ

- ❖ Voluntary registration
The only „requirement”: **bring one of the relatives!**
- ❖ All the expenses are covered by our St Margit Hospital Kindey Foundation
- ❖ Education for one week duration, groups for
 - predialysis patients
 - CAPD pts
 - HD pts
- ❖ HD provided by Hemobil Kht. Organizaton on site, CAPD are performed in the pts' rooms
- ❖ 2007–2014: **11 groups, 119 pts, 127 relatives participated**









EDUCATIONAL TOPICS

Basic function of the kidneys

Fluid and electrolyte balance

Normal and abnormal laboratory results

Importance of diet

Importance of drug treatments

Modality selection

Kidney transplantation (living or cadaver donor Tx)

Major comorbidities

Assistance of social problems, rehabilitation,
psychosocial issues

Legal rights of the patients

Alleviation handicap

MULTIDISCIPLINARY TEAM

NEPHROLOGISTS,
EDUCATIONAL NURSE,
DIETICIAN,
SOCIAL WORKER,
PSYCHOLOGIST,
REHABILITATION SPECIALIST,
TAI-CHI- AND PHYSIOTHERAPEUTIST,
CASE PRESENTATIONS BY PATIENTS

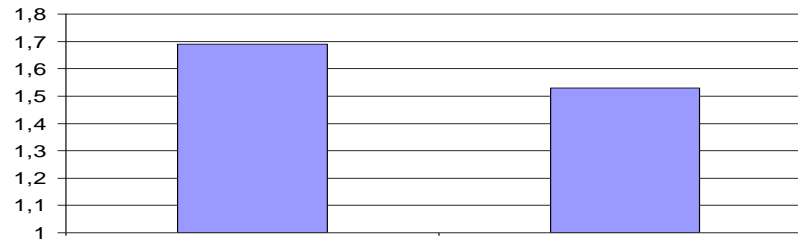
MAIN RESULTS OF THE PREDIALYSIS PATIENTS

- ▶ 34 patients (19 males, 15 females)
(accompanied by an immediate relative)
- ▶ Mean age 63.4 ± 15 years
- ▶ Follow up after the Educational Camp:
 28 ± 17 months
- ▶ eGFR 18.9 ± 8 ml/min
- ▶ Charlson comorbidity index 3.5 (IQR 3)

Serum PO4 (mmol/l)

1.69±0.4

1.53±0.4

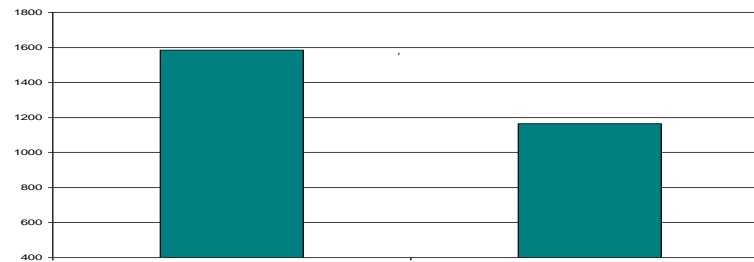


p=0.02

Proteinuria (mg/d)

1585 (IQR 1150)

1163 (IQR 1704)

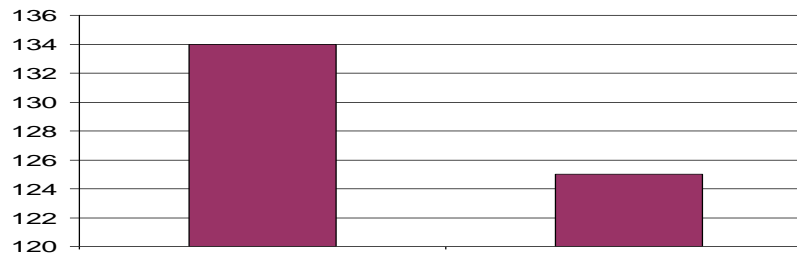


p=0.04

Systolic blood pressure (mmHg)

134±20

125±17

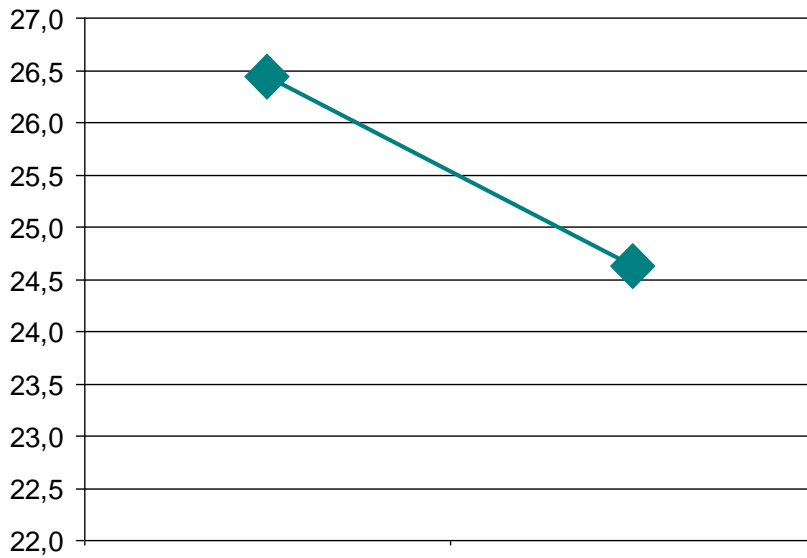


p=0.01

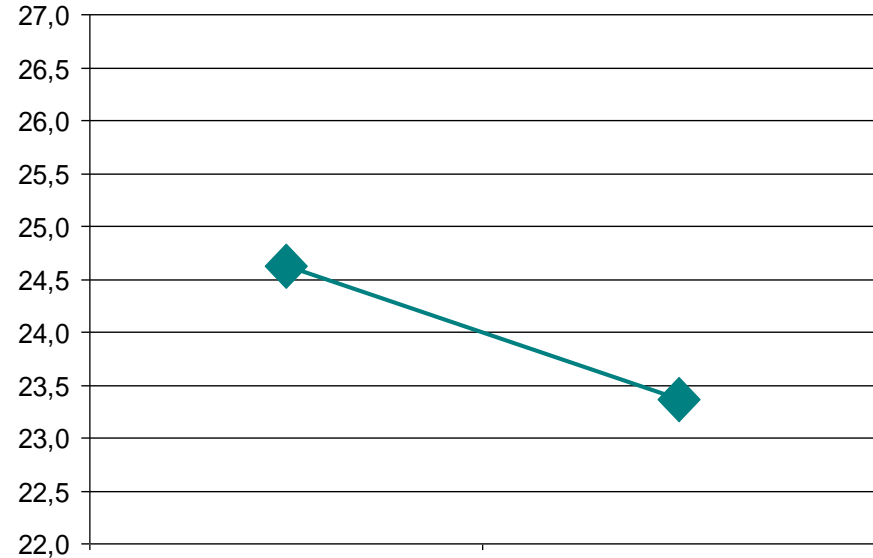
Before Camp

After Camp

Rate of decline of eGFR in patients, who remained independent of dialysis (n=11)



Before the Camp
2.04 ml/min/year

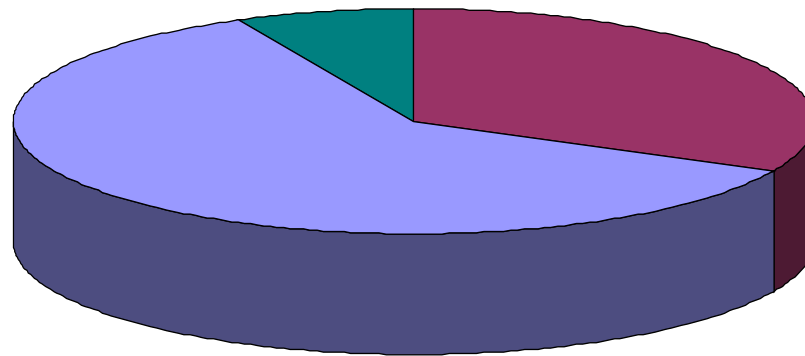


After the Camp
0.85 ml/min/year

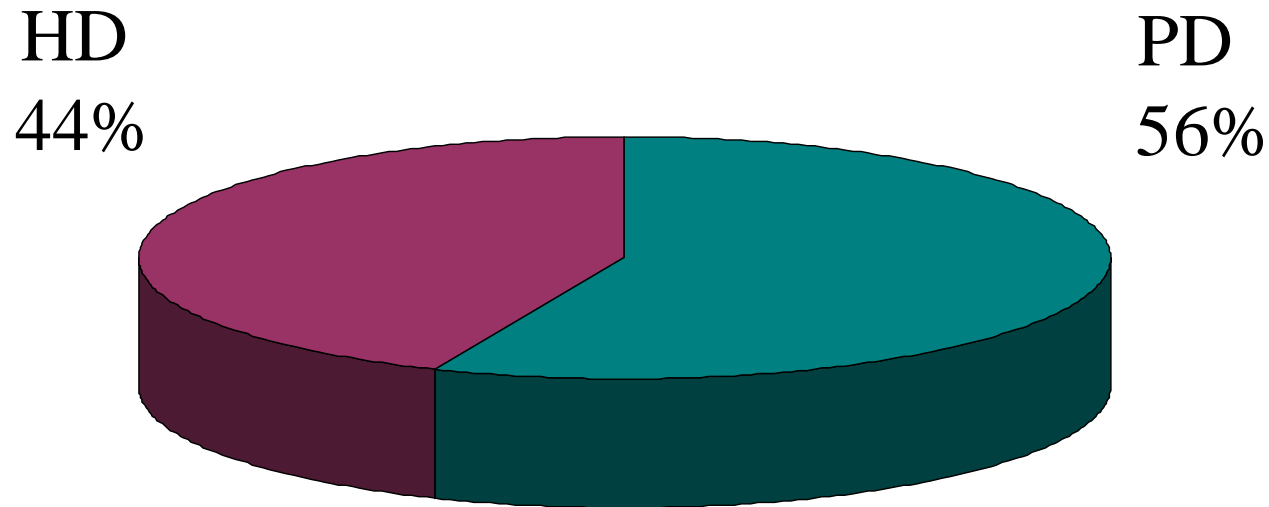
Transplantation activity of the patients who are alive (n=28)

Live donor Tx: 2 patients
Five of the relatives
offered kidney donation

Wait-listed: 9
patients
(32%)



Modality choice of the patients on RRT (n=16)



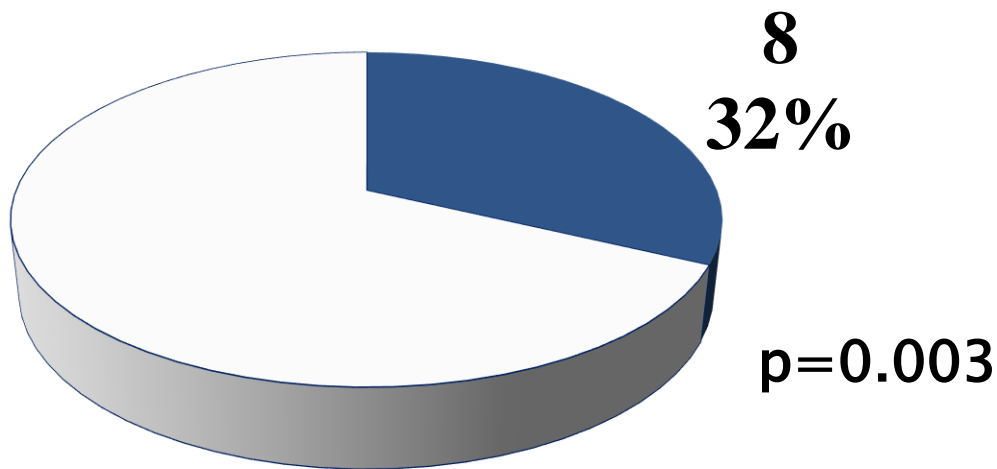
Hungarian registry data (2010):
wait-listed 10.7%, living related transplantation 8.5%,
PD penetrance 12.8%.

MAIN RESULTS OF PD PATIENTS

- ▶ 25 patients (13 males, 12 females)
(accompanied by an immediate relative)
age 56.4 ± 18 years
- ▶ Controls: 46 PD patients followed on our PD
Clinic
age 62.3 ± 16 ($p=0.15$)
- ▶ Follow up: between 2008–2013.

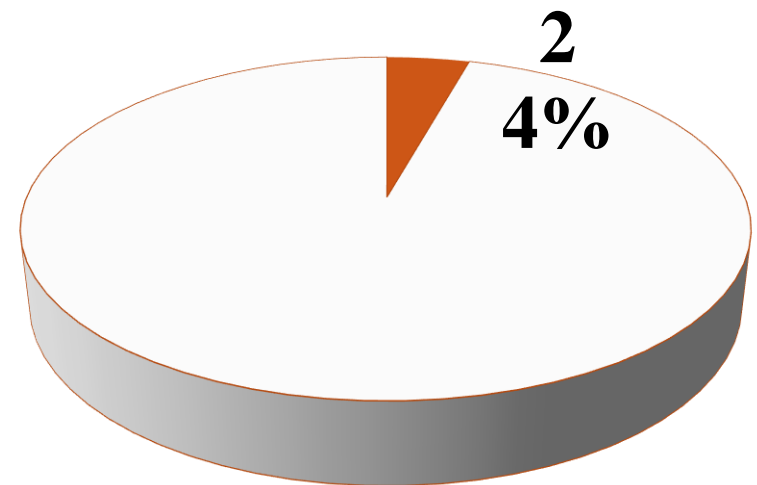
Transplanted patients in the groups

Patients with educational intervention



Live/cadaveric Tx: 3/5
(2 further donations were offered)

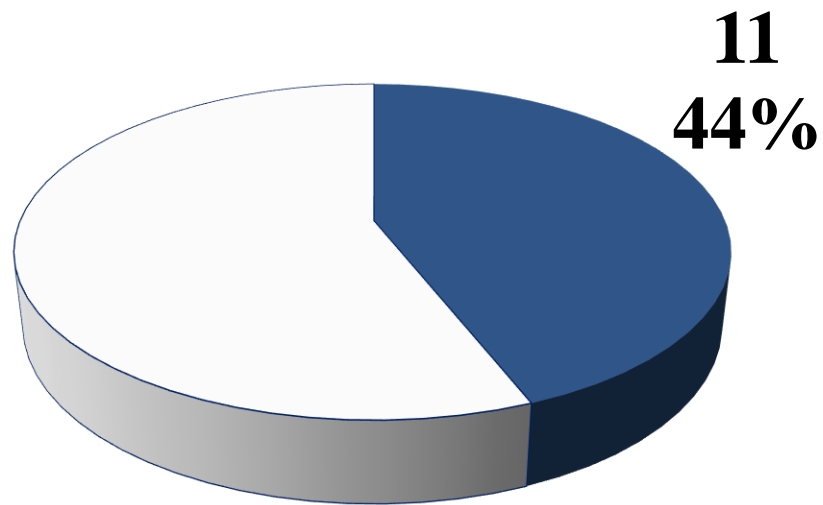
Controls



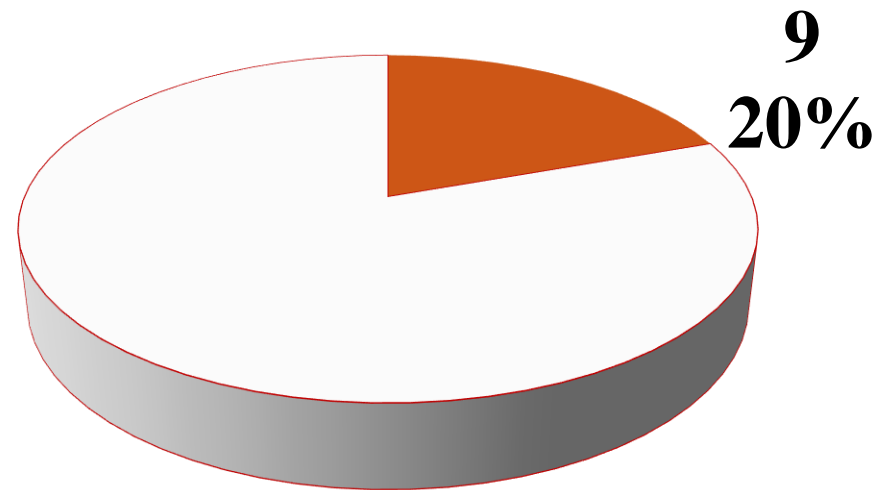
Live/cadaveric Tx: 0/2

Transplantation and wait-listed status in the groups

Patients with educational intervention



Controls



$p=0.029$

RESULTS OF OUR EDUCATIONAL AND LIFE STYLE CAMP - COMPLIANCE

61 years old male

1989 Type II DM and HTN

1998 on insulin, not on diet (neither his wife!)

2007 proteinuria, se-creatinine: 143 $\mu\text{mol/l}$

2009 nephrol. care: creat:296 $\mu\text{mol/l}$, GFR:21 ml/min

refuses keeping diet, takes medications irregularly

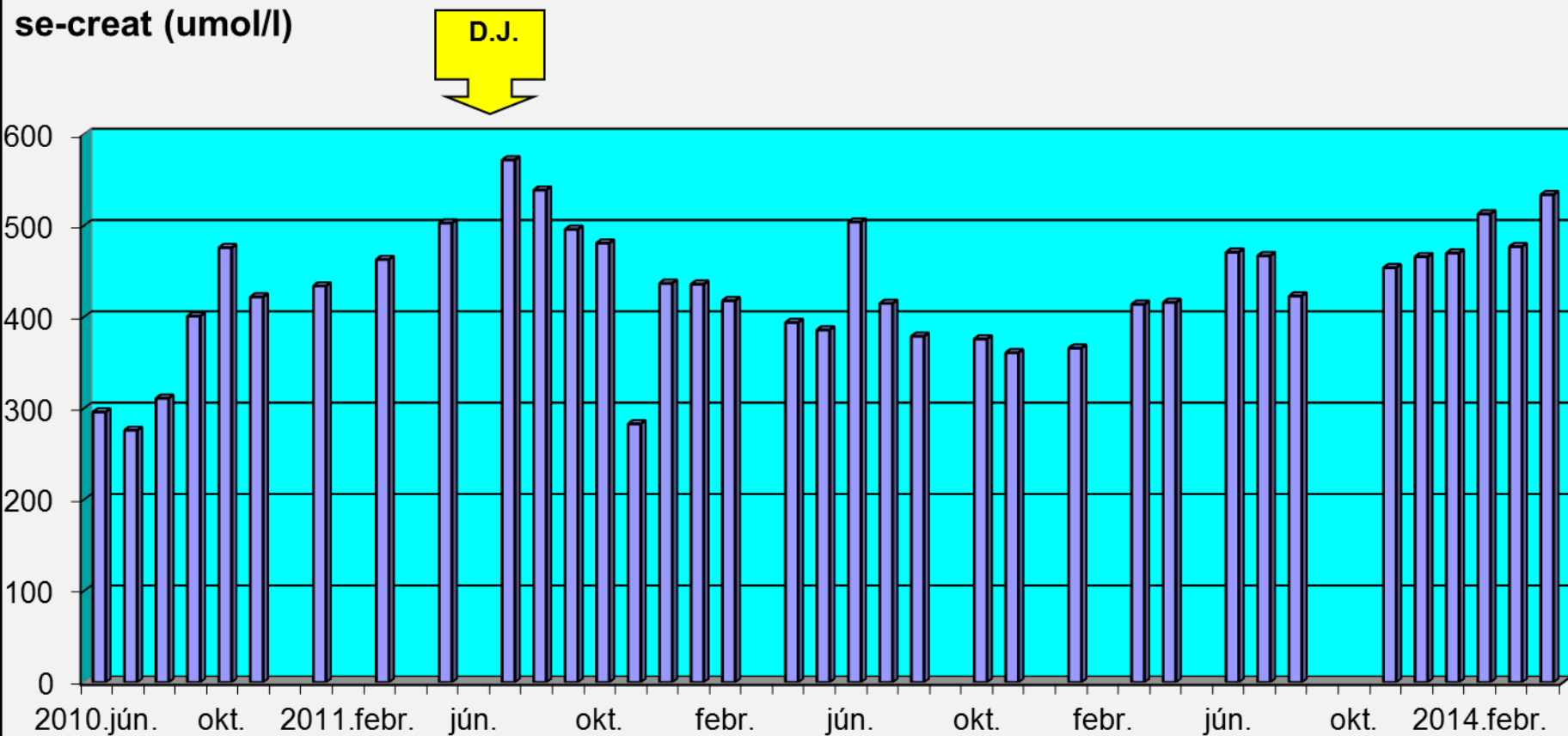
2011 creat:546 $\mu\text{mol/l}$, plan:create fistula and start HD

2011 July participates in Education and Life Style Camp

After the education he changes his opinion

- accepts dietary restrictions,
- measures his BP, takes his meds regularly

Se-creatinine levels between Jan 2009–May 2014



RESULTS OF OUR EDUCATIONAL AND LIFE STYLE CAMP – Quality of life

Male patient, born in 1970

1981. NS, steroid treatment

1989. kidney biopsy: MPGN – immunosuppression

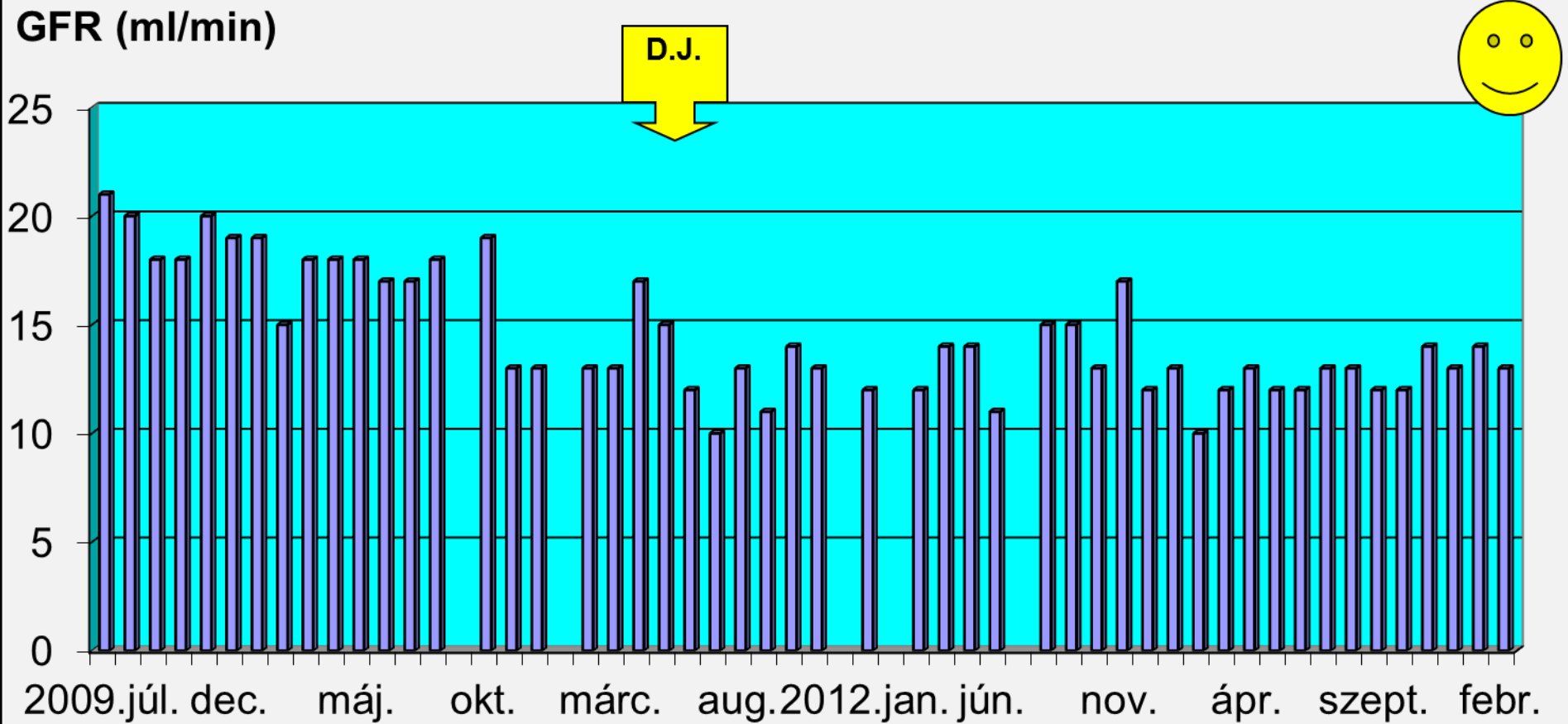
1990–2009 attends pediatrician nephrologist
irregularly

2009.July: St. Margit Hospital:
se-creat: 396umol/l, GFR 21 ml/min
Depressed, has 5 children

2011.July: Participates in our Educational Camp
Significantly improved compliance
Full time employment (translator)
Transplant wait-listed

2014. March: successful kidney Tx (full match)

GFR values between 2009–2014 (Educational Camp: July, 2011)



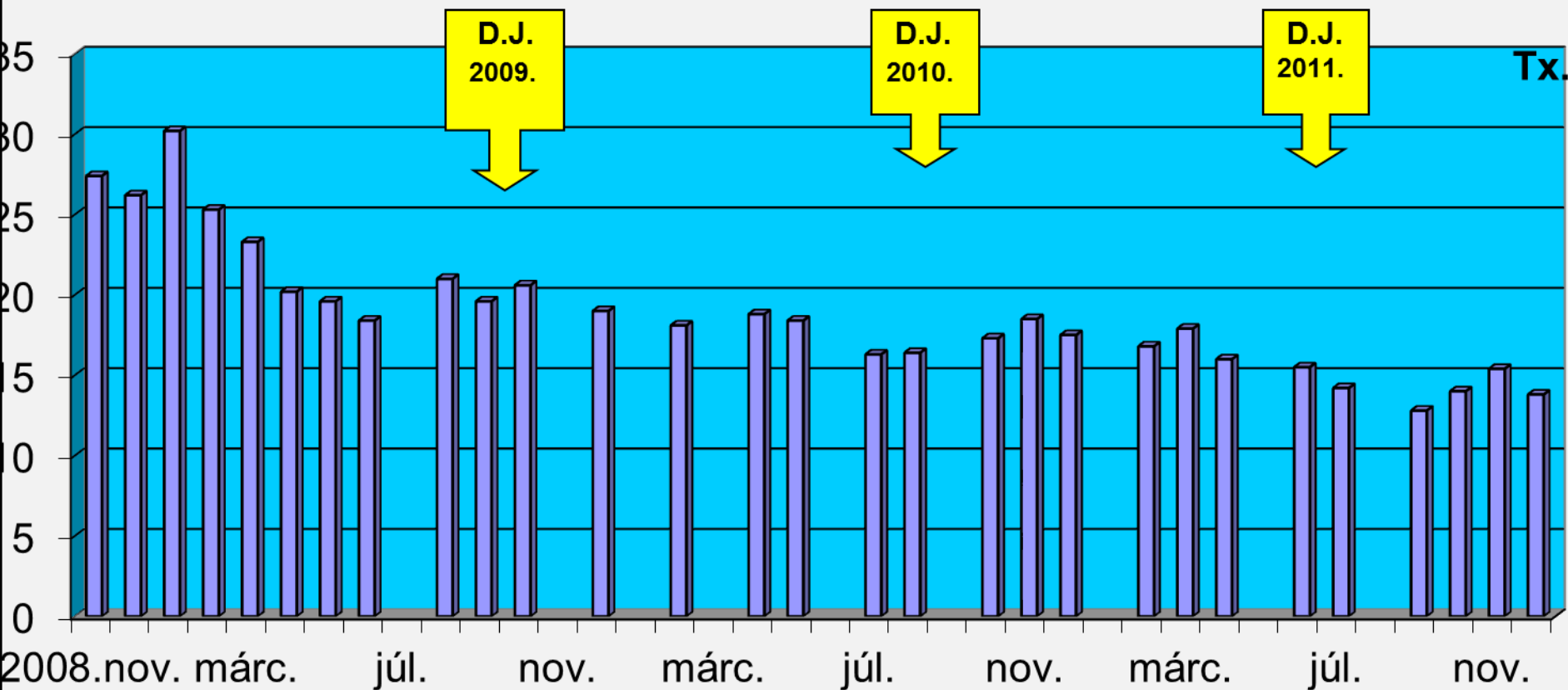
50 years old male patient with ADPKD

(2008.Nov.-2011.Dec.)

Kidney donation by his wife,
Patient works full time



GFR (ml/min)



EXPERIENCES OF THE EDUCATORS

- ❖ Patients were very enthusiastic
- ❖ By involving the relatives: more effective learning process, enhanced personal activity
- ❖ Patients accepted their diseases more easily, families fight together
- ❖ Self-directed, family assisted cooperation in diet, taking medications
- ❖ Importance of „psychoeducation”, self knowledge, psychological balance
- ❖ For the educators: not only teaching, but learning

A special example of rehabilitation



Anita



**At age of 15 (1987) – Acute renal failure – HUS – needs RRT since that time (Tx x2, acute rejections).
Rehabilitation: complete the school, then ...**

.... and her occupational rehabilitation



Beside being a HD patient in Nephrocentrum Dialysis Unit, she applied for a job as a dialysis nurse. Since 1991. she has been working as a dialysis nurse, 7 hrs/day. Now she is 42 years old, and has been living with RRT for 27 years.

Another way of psysico–psycho–social rehabilitation of patients with RRT

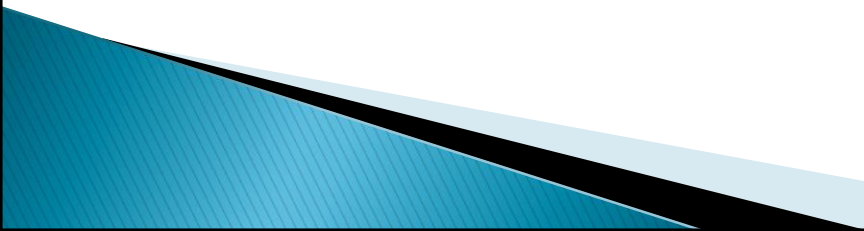


Two young patients on CAPD organized a Bike tour in 2012

There aim to prove:
patients on RRT may live
healthy, active, high quality life

Around lake Balaton, 210 km, 4 days
6 pts, 4 nurses, 1 nephrologist, 16 friends

RenBike Tour 2013

- ▶ 26 patients, 130 participants
 - ▶ Organized by a Hungarian nephrologist, supported by several organizations
 - ▶ Full financial support for the patients
 - ▶ HD, CAPD treatments were organized in cities on the way
 - ▶ Continuous medical control
 - ▶ Everyone tolerated the activity well, without any complication
- 

RenBike Tour 2014

- ▶ 27 patients, 270 participants, 35 km around lake Velencei
- ▶ Later on around lake Balaton again, with great success, 28 patients, 147 participants







