Peritoneal Dialysis as First Dialysis Modality

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Moscow, November 22, 2019

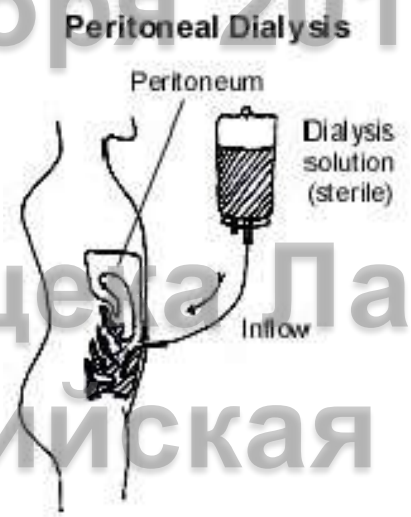
What is important to us and our patients?

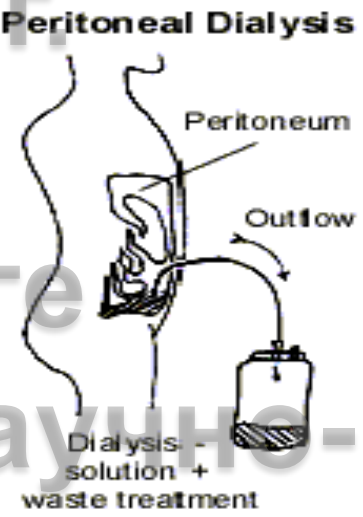
1. Why PD first?
2. PD first – for whom?
3. PD first – what is necessary?
4. Conclusions

History of PD

1976 – development of CAPD

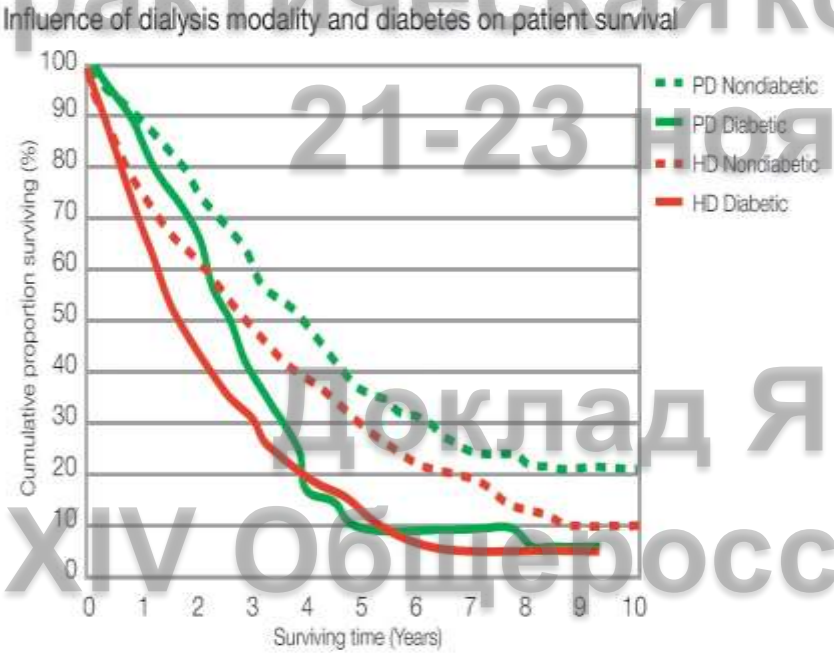
- Robert Popovich and Jack Moncrief
- Samodzielne permorming PD exchanges by the patient at home (4-5 2L exchanges per day)
- Number of PD patients rose rapidly





Patients Survival in Peritoneal Dialysis

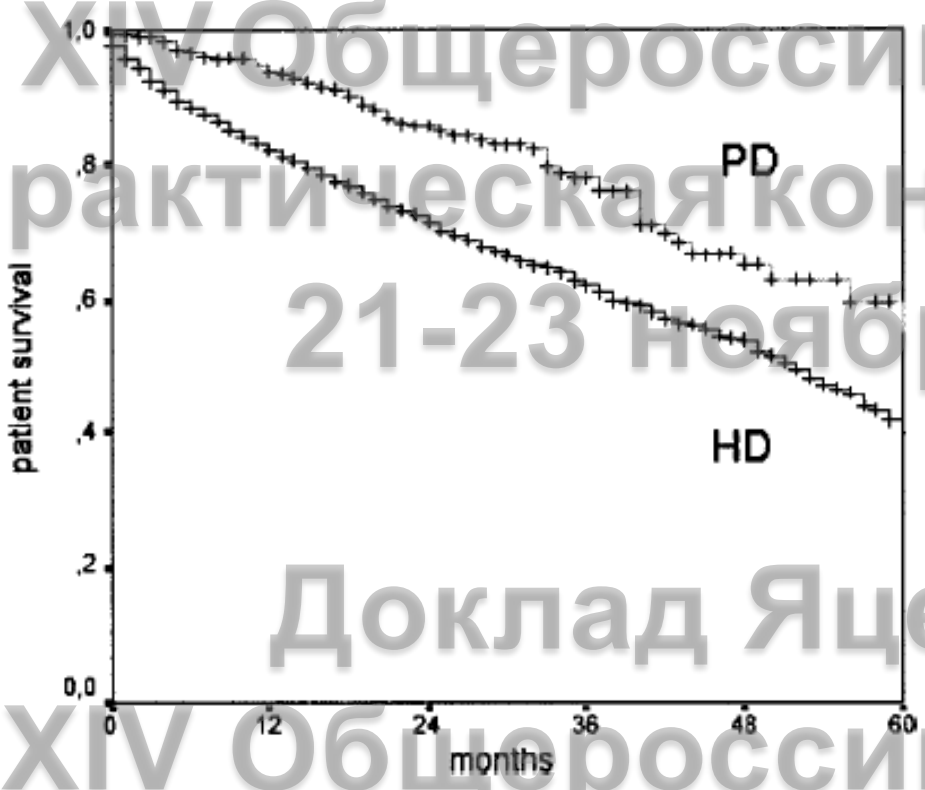
Danish Registry



Heaf et al (Danish registry), NDT Vol 17, 2002

- 4568 HD and 2443 records from 4921 patients
- Treatment period – 1990 – 1999
- PD mortality rate vs HD
- ITT analysis – 0.65; P<0.001
- As treated – 0,86; P<0.001

Patients Survival in Peritoneal Dialysis



Cala, Perit Dial Internat 2007;27(3):238-244.

- Initiation of treatment – 2000 – 2004
- 377 PD patients, 2789 HD patients
- After adjustment for age, gender, diabetes and nephroangiosclerosis – hazard ratio for HD 1.5 (95% CI 1.1-1.9)

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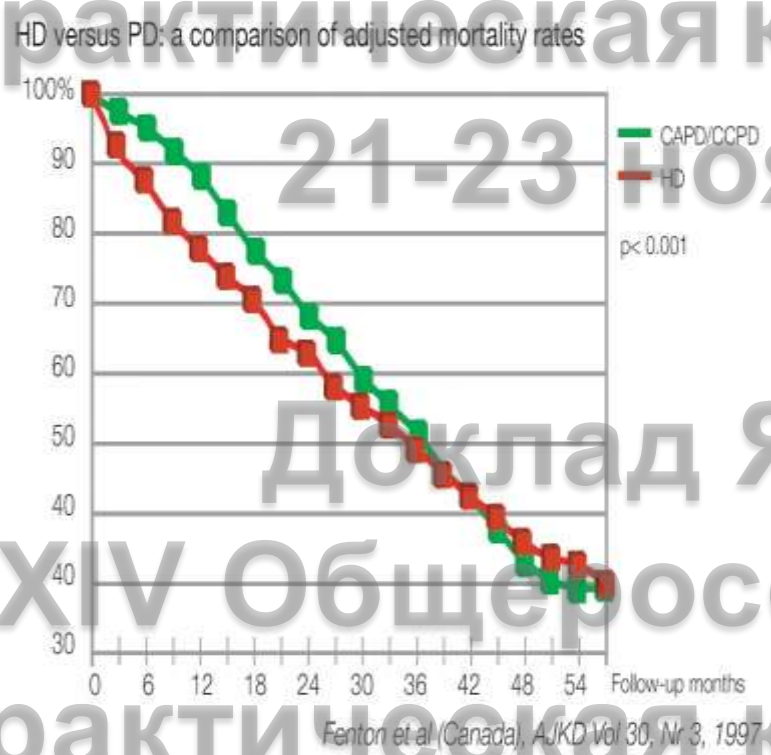
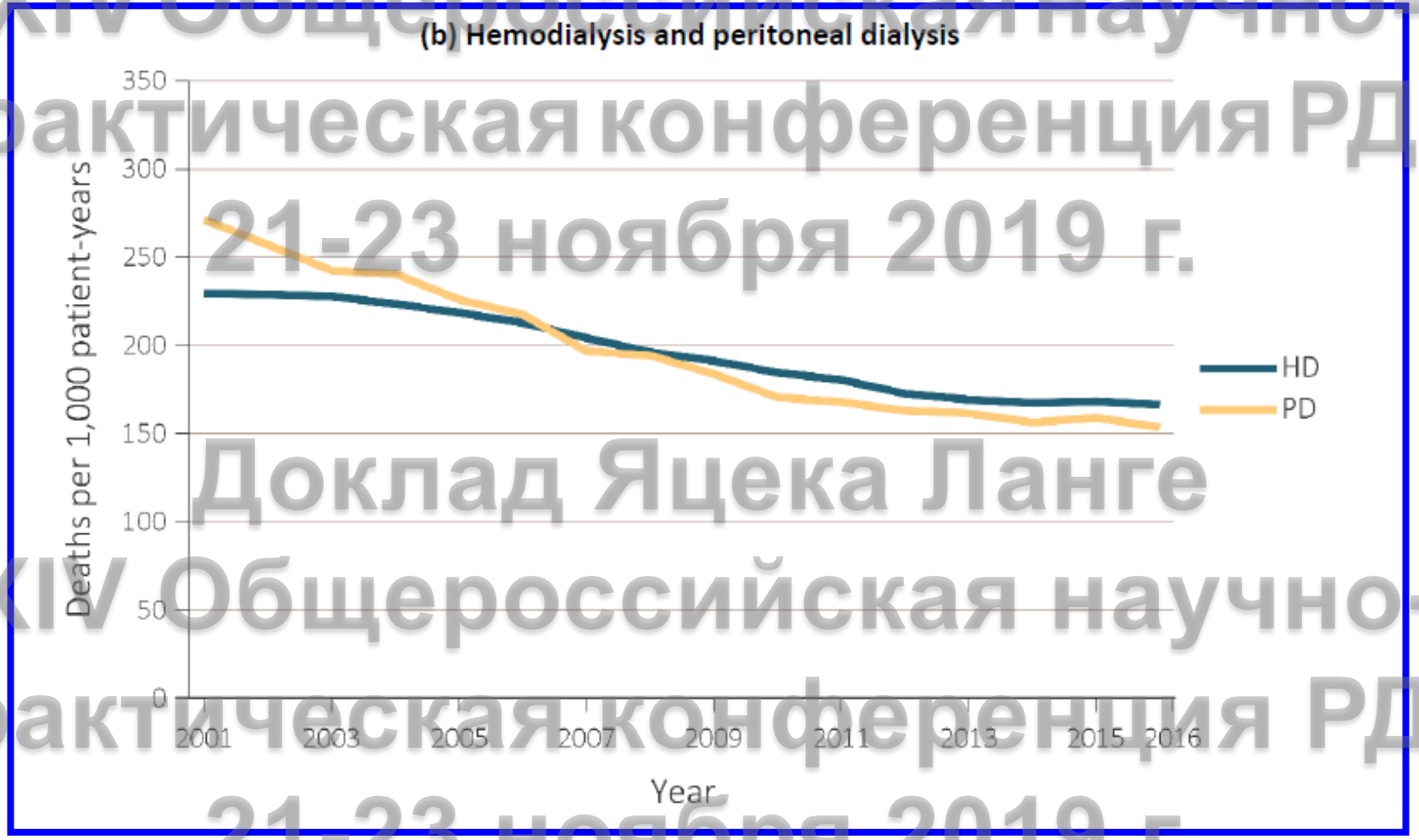
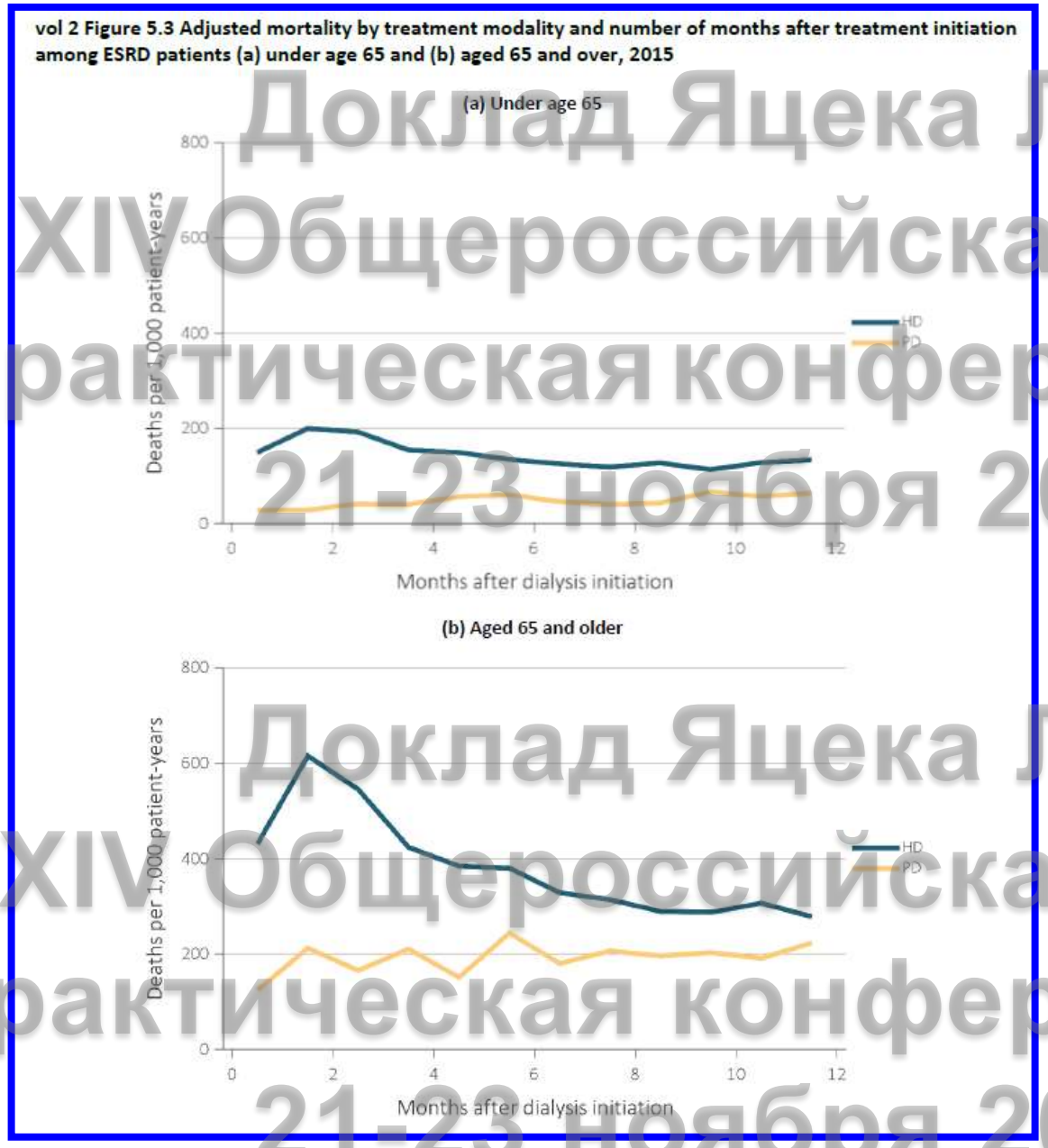
Patients Survival in Peritoneal Dialysis



- Canadian Organ Replacement Register
- Mortality rates of 11.970 HD and PD patients
- Initiation of therapy – 1990-1994, followed up to 5 years

USRDS 2018 report – adjusted mortality in hemodialysis vs. peritoneal dialysis





USRDS 2018 report – adjusted mortality in hemodialysis vs. peritoneal by age dialysis

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Comparison of Patient Survival Between Hemodialysis and Peritoneal Dialysis Among Patients Eligible for Both Modalities

Ben Wong, Pietro Ravani, Matthew J. Oliver, Jayna Holroyd-Leduc, Lorraine Venturato, Amit X. Garg, and Robert R. Quinn

- WHO? All adult patients who developped ESRD
- WHEN? From January 2004 to December 2013
- WHERE? Referred to 7 regional centers at Ontario, Canada

Table 2. Survival Data Pertaining to Various Cohorts

Cohort	HD Event Rate[a]	PD Event Rate[a]	Unadjusted $HR_{PD:HD}$ (95% CI)	Adjusted $HR_{PD:HD}$ (95% CI)
Traditional				
Overall	0.65	0.42	0.59 (0.48-0.73)	
Age < 65 y, before y 3				0.60 (0.42-0.86)
Age < 65 y, after y 3				1.45 (0.74-2.86)
Age ≥ 65 y, before y 3				0.91 (0.69-1.19)
Age ≥ 65 y, after y 3				1.54 (0.93-2.50)
Eligible	0.47	0.38	0.76 (0.60-0.97)	1.08 (0.82-1.42)
Eligible outpatient	0.41	0.34	0.83 (0.62-1.11)	1.19 (0.86-1.65)

Abbreviations: CI, confidence interval; HD, hemodialysis; $HR_{PD:HD}$, hazard ratio for PD vs HD; PD, peritoneal dialysis.
[a]Number of deaths per 1,000 patient-days.

Am J Kidney Dis. 71(3): 344-351. Published online November 22, 2017.

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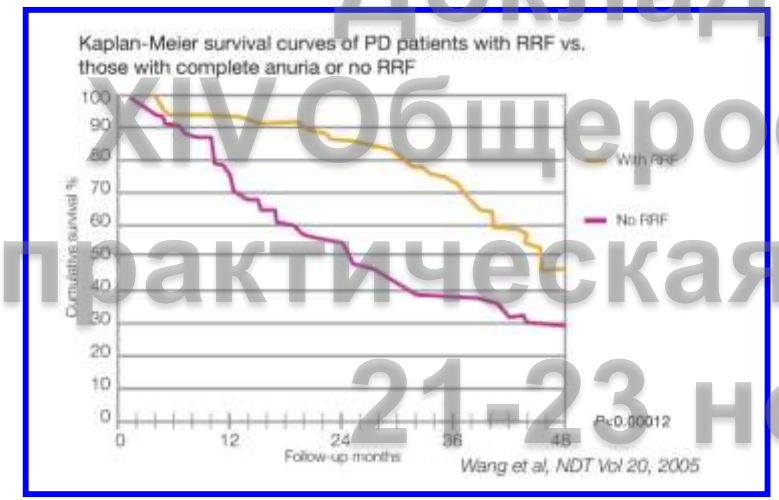
Residual Renal Function – predictor of mortality

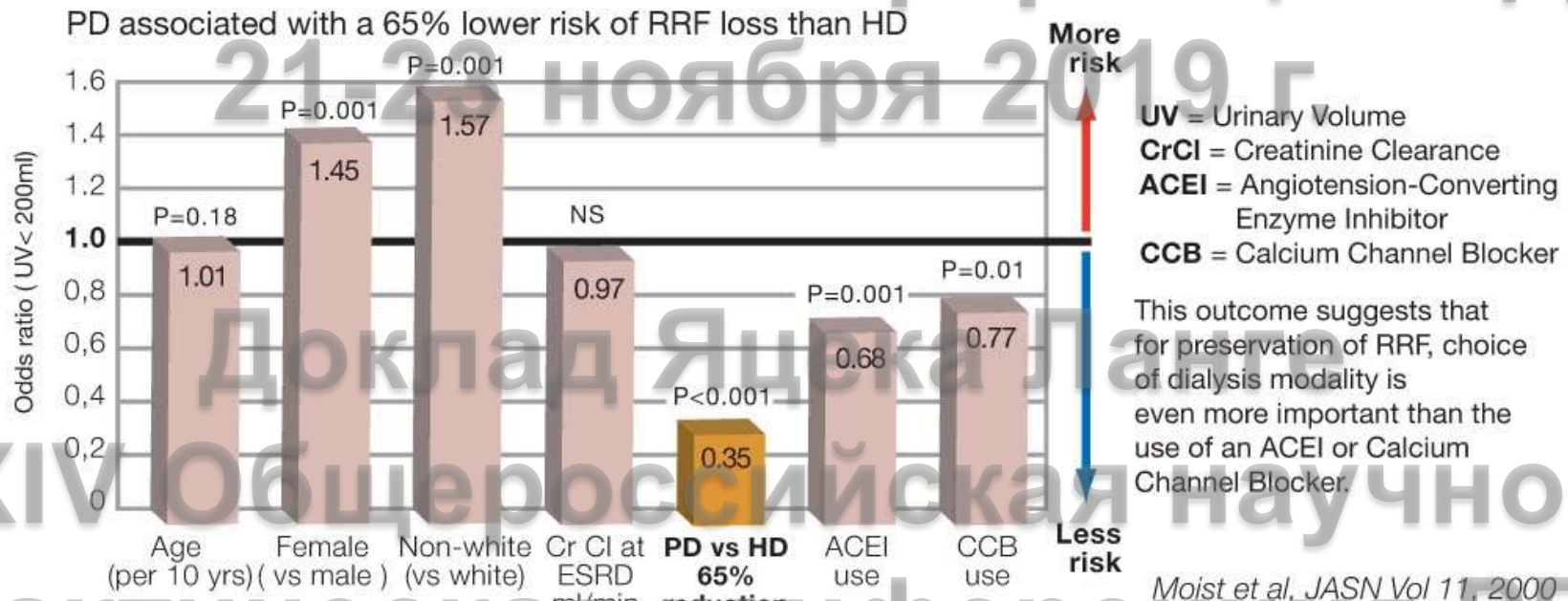


- 236 patients on CAPD, 39% completely anuric
- 2-year survival was 89.7 vs 65.0% for patients with GFR ≥ 1 mL/min and anuric, respectively

RRF is an advantage in Hemodialysis as well

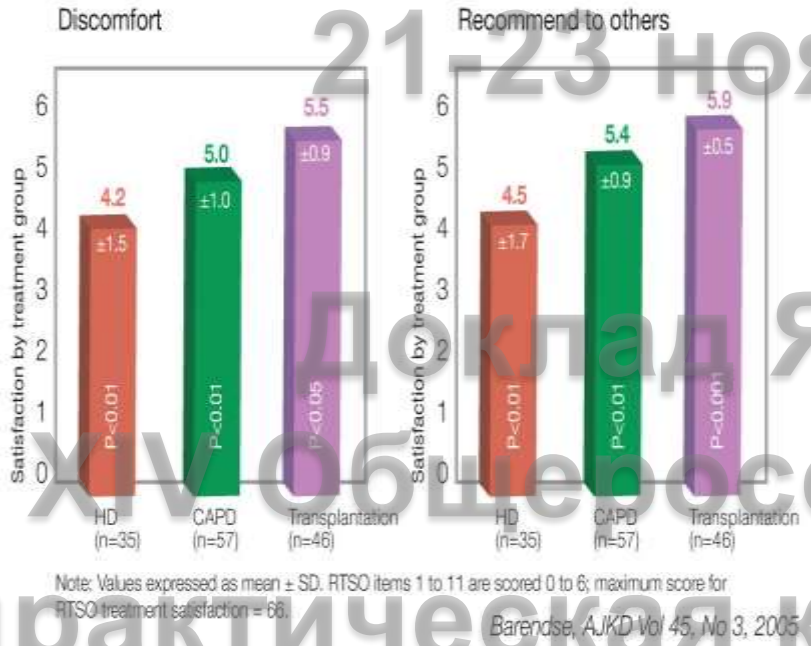
Shemin D, et al., Am J Kidney Dis. 2001

Predictors of RRF preservation



Quality of Life – HD vs. PD vs. RTx

Patients on HD were less satisfied than the patients on PD, and least likely to recommend their treatment to other patients with Chronic Renal Insufficiency (CRI).



Note: Values expressed as mean ± SD. RTSQ items 1 to 11 are scored 0 to 6; maximum score for RTSQ treatment satisfaction = 66.

Barendse, AJKD Vol 45, No 3, 2005

- RTSQ (Renal Treatment Quality Questionaire) was designed to assess:
  - Convenience
  - Flexibility
  - Freedom
  - Satisfaction

Quality of Life – HD vs. PD vs. RTx

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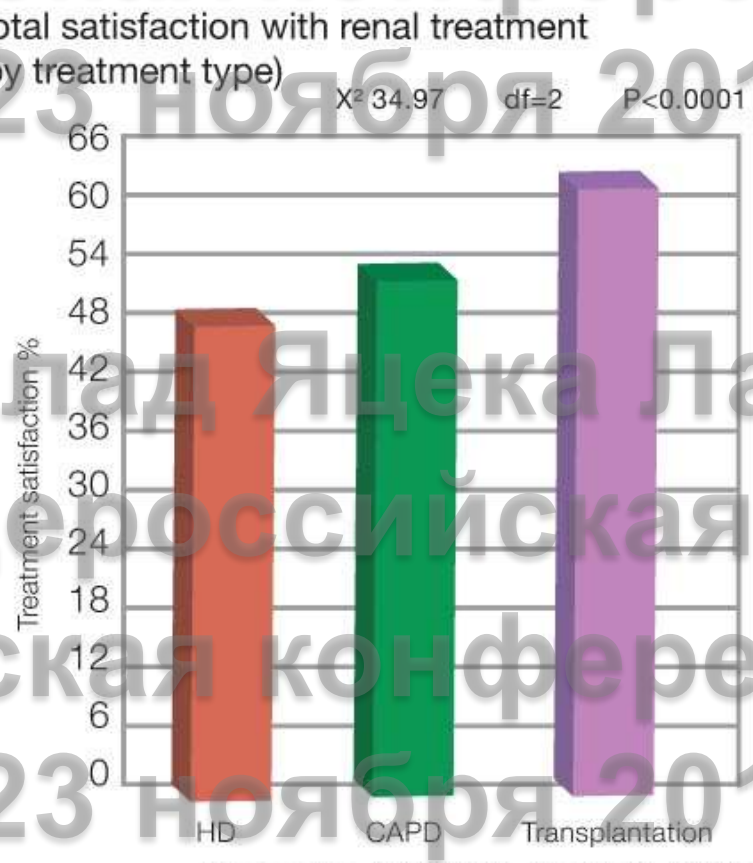
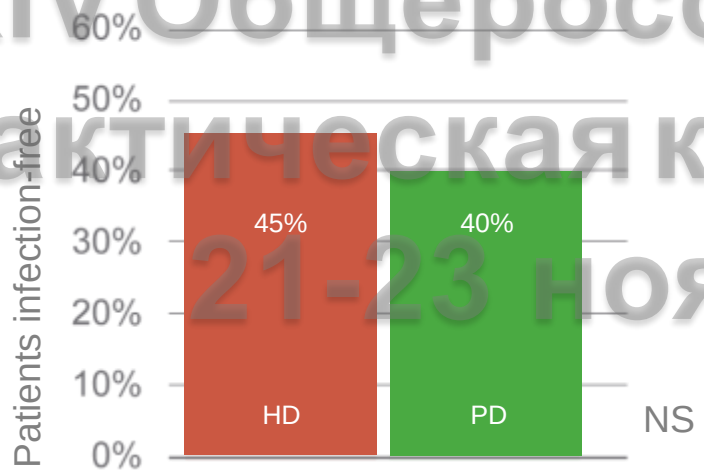


Barendse, AJKD Vol 45, No 3, 2005

Infections rate PD and HD



Parameter	HD	PD	*P*
Infections, total per time at risk (median [range])	1 (0 to 14)	1 (0 to 14)	NS
Infection rates per year at risk			
Sepsis overall	0.16	0	<0.0001
Peritonitis	0	0.24	<0.0001

Comparison of infectious complications between incident haemodialysis and peritoneal dialysis patients.

[14]Aslam et al, 2006

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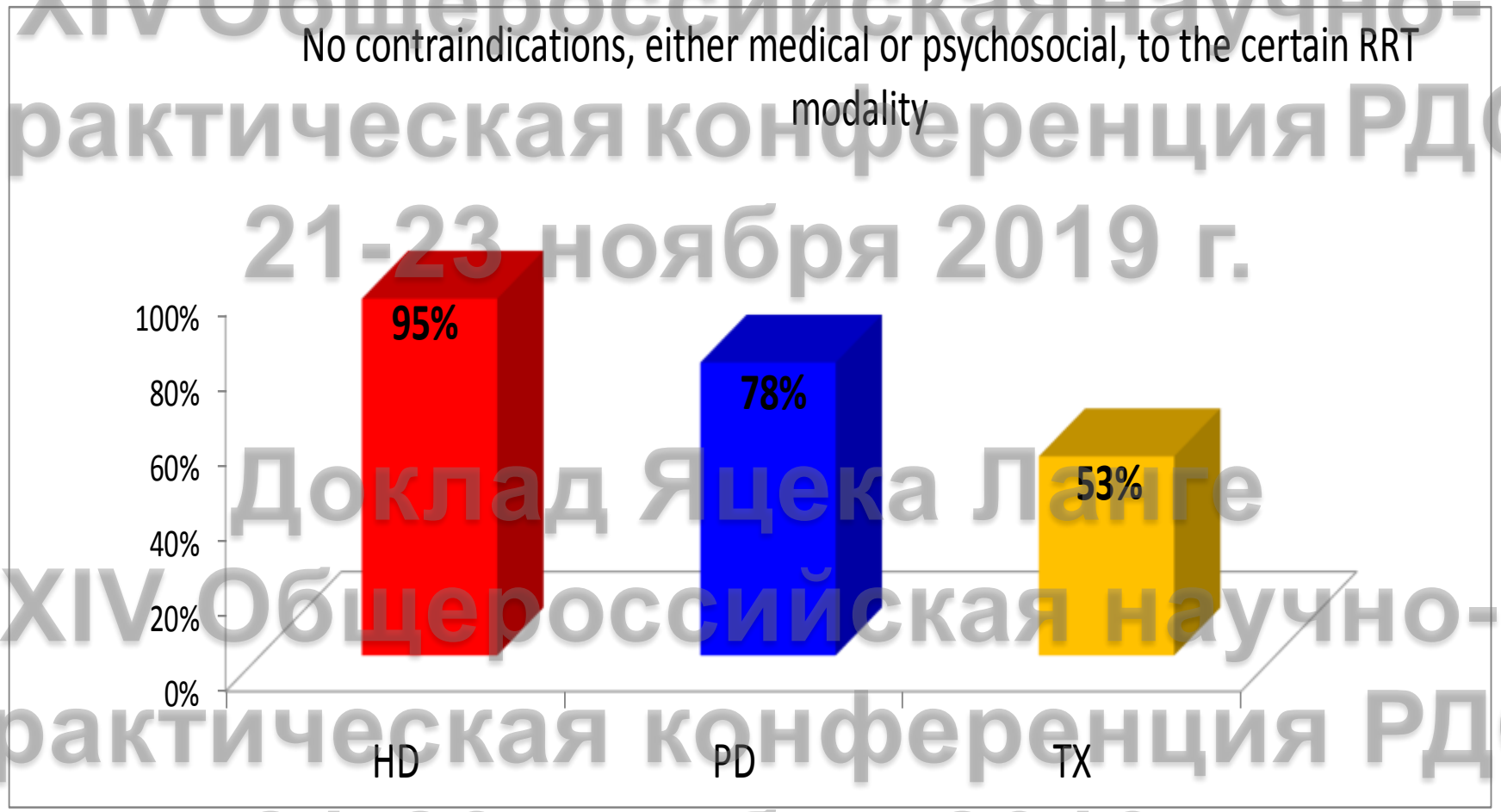
Suitability of patients for HD, PD and RTx



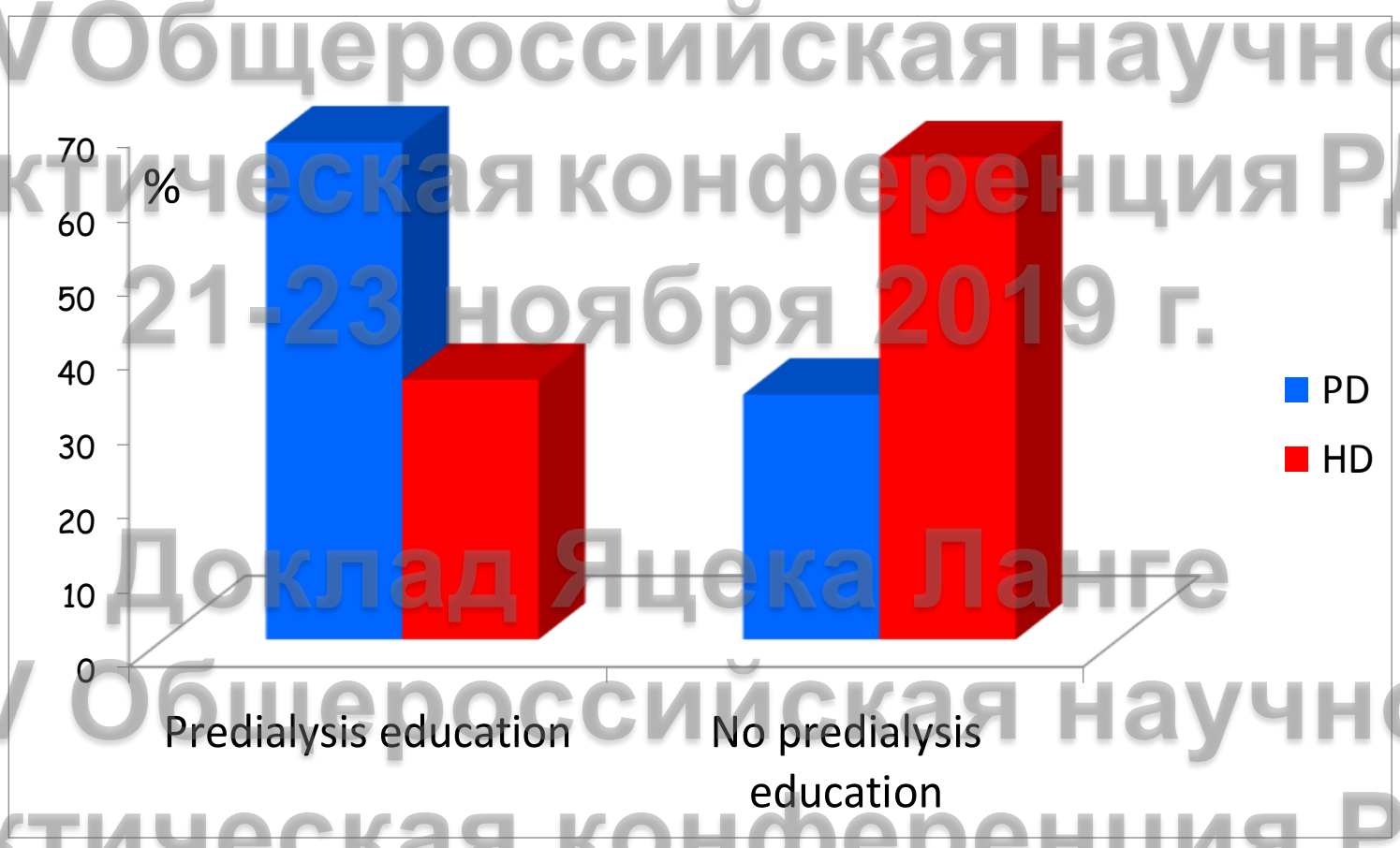
Mendelssohn DC, NDT, 2009

Peritoneal dialysis – barriers

- Aged patients
- Multiple or serious commorbidities
- Availability of HD – economical needs of hspital over medical advantages
- Maintenance of PD units with few PD patients
- Cost of treatment, type of reimbursement
- Low patients' education
- Insufficient PD training for Nephrologists

Blake PDI 2001; van Biesen NDT 2008

Peritoneal dialysis – barriers



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Wojtaszek et al, ASN 2009

Patients' referral to Renal Replacement Therapy

- Too many patients are referred too late
  - Obrador & Pereira, Am J Kidney Dis 1998: 31: 398-417.
  - Jungers, Kidney Int 1993; 43: S170-S173.
  - Lameire, NDT 1999; 14 [Suppl 6]: 16-23.
  - Moist, Clin J Am Soc Nephrol 2008;3:1726-1732
  - Van den Bosh, Patient Prefer Adherence 2015 Sep;9,9:1279-91
  - Chan, Kidney Int 2019, 96:37-47

- The current level of care is not good enough.

  Obrador, JASN 1998; S44-S54.
  Lameire, Kidney Int 2002; 61 (Suppl 80): 27-34.
  Moist, Clin J Am Soc Nephrol 2008;3:1726-1732
  - Van den Bosh, Patient Prefer Adherence 2015 Sep;9,9:1279-91
  - Chan, Kidney Int 2019, 96:37-47

- The advantages of the predialysis care are proven
  - EDTNA ERCA J 2002 ;28 (6): 49-55
  - Nephrol Nurs J. 2002; 28 (1): 643-6.
  - Nephrol News Issues 2001;15 (10):17-9
  - Mendelsaohn, Am J Kidney Dis. 2007;47:277-284
  - Moist, Clin J Am Soc Nephrol 2008;3:1726-1732
  - Van den Bosh, Patient Prefer Adherence 2015 Sep;9,9:1279-91
  - Chan, Kidney Int 2019, 96:37-47

Lack of education on CKD

Mehrotra: KI 68:378, 2005

- Questionaires sent to 1143 incidence dialysis patients in South California. Out of that, the answers received from 428 patients;
- 36% of patients **didn't know** that they suffer from kidney disease < 4 months before starting dialysis;
- **Nobody discussed** the possibility of **PD** with 66% of patients;
- **Nobody discussed** the possibility of **renal transplantation** with 74% of patients.

Dialysis initiation, modality choice, access, and prescription: conclusions from a Kidney Disease: Improving Global Outcomes (KDIGO) Controversies Conference

Check for updates

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Christopher T. Chan[1], Peter J. Blankestijn[2], Laura M. Dember[3], Maurizio Gallieni[4], David C.H. Harris[5], Charmaine E. Lok[1], Rajnish Mehrotra[6], Paul E. Stevens[7], Angela Yee-Moon Wang[8], Michael Cheung[9], David C. Wheeler[10], Wolfgang C. Winkelmayer[11] and Carol A. Pollock[5]; for Conference Participants[12]

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Conference – January 2018

Published – Kidney Int 2019, 96:37-47

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Structured Predialysis Education Program (PEP)

In every Nephrology department the clinicians say they provide patients with the proper information about CKD and renal replacement therapy (RRT).

Reality

1. Information often too late;
2. Information provided in a very short and stressful way;
3. Information, not predialysis education;
4. Lack of structured PEP in most of dialysis centers, also at many universities.

Structured PEP – HOW?

What are the steps? How they look like? What we need?

1. The Nephrologist in the outpatients clinic is not able to provide PEP

2. Step 1 – Nephrologist in the outpatient clinic to refer the patient to the PEP clinic.

3. Multiple outpatient clinics may refer to one central PEP clinic.

4. Usually PEP consists of 3 educational sessions.

5. Sessions shouldn't be too close to each other, to allow the patient and family to digest the information, resulting in more conscious choice of RRT.

However, sometimes we do see things differently...

So we should take another look ...

Communication pitfalls

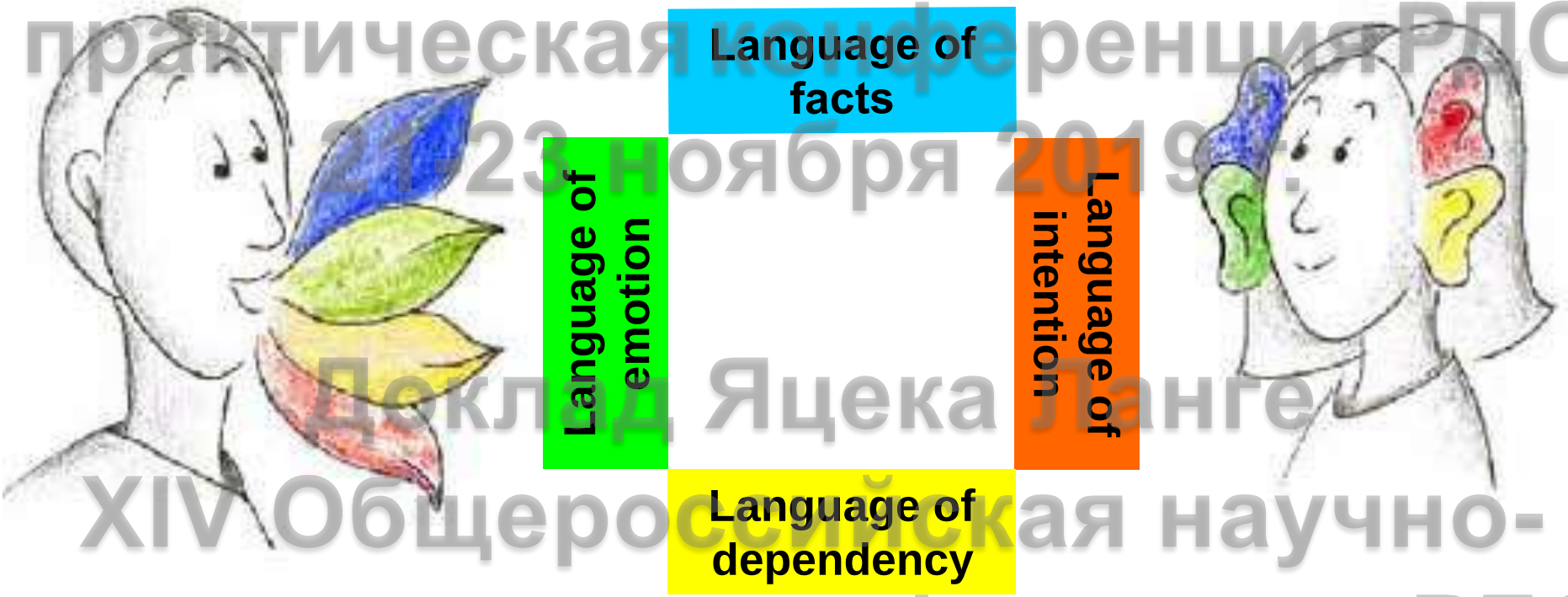
1. Patients usually receive the information about their chronic disease with the lack of proper, slow, clear and fully understandable communication;

2. The normal reaction is fear;

3. Fear may result in 3F
   a) Fight;
   b) Flee;
   c) Freeze;

4. Need in HCPs to understand defensive processes
   1. Understanding the patient,
   2. Understanding of our own reactions.

Interpersonal communication



According to Friedrich von Thun

Interpersonal communication

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Interpersonal communication

Language of facts:

- It's green light already.

Darling, it's green light already

- Pure information.

Interpersonal communication

Language of facts:

Language of intention

Darling, it's green light already

- **I would like you to move.**
- **Intention, without emotion.**

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Interpersonal communication

Language of facts:

Language of intentions

Language of emotions

Darling, it's green light already

- I can't stand waiting!
- I'm in a hurry!

Interpersonal communication

Language of facts:

Language of intentions

Language of emotion

Darling, it's green light already

Language of dependence:

- I'm the best driver
- I know everything better

Mourning (grief)

=

Irretrievable farewell

=

Reconciliation with loss

1. Sigmund Freud: „Mourning and melancholia”, 1915
2. John Bowlby: „Attachment and loss”, 1969
3. Antonio Onofri: „Mourning. Cognitive evolutionary psychotherapy”, 2016

Dealing with loss – mourning

1. Denial
2. Anger
3. Trading
4. Depression
5. Acceptance. Farewell.

1. Sigmund Freud: „Mourning and melancholia”, 1915
2. John Bowlby: „Attachment and loss”, 1969
3. Antonio Onofri: „Mourning. Cognitive evolutionary psychotherapy”, 2016

Triangle of conflict

David Malan, 1979

Personality – defensive processes

1. Denial
2. Repression
3. Acting out
4. Rationalization
5. Intellectualization
6. Moralization
7. Projection
8. Idealization / devaluation
9. Introjection / identification
10. Projective identification
11. Sublimation
12. Reaction formation
13. Omnipotency / Omnipotent control
14. Turning against the Self
15. Splitting of the Ego
16. Extreme Dissociation / fugue / amnesia
17. Izolation
18. Seksualization
19. Regression
20. Somatization
21. Displacement
22. Undoing

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Key Messages

1. PD is an effective therapy for CKD patients
   - Preservation of RRF
   - Anemia control
   - Improved transplant function
   - More managaeable infections
   - Patients survival
   - Quality of life

2. From the medical and psychological point of view, it is worthy to introduce PD as first RRT in all patients who
   - Agree on that
   - Can not be transplanted preemptively

3. There is a need for education and understanding of patients

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Спасибо большое
за Ваше внимание

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