Transition from Peritoneal Dialysis to Hemodialysis: What really matters?

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Introduction and Aims:

Despite the technique improvement over the last 30 years, several patients drop-out from Peritoneal Dialysis (PD) to Hemodialysis (HD) every year. This probably represents one of the most important reasons for the extraordinary low prevalence of PD in many countries.

The purpose of this study was to investigate the reason for PD transfer to Hemodialysis (HD) and to identify its associated

Material and Methods

Multicenter and retrospective study involving 661 adult patients from 17 PD units, in 2013.

Patients were divided in two groups:

- **Group I** - patients who were transferred from PD to HD in 2013
- **Group II** - patients who remained on PD on the 31st December 2013

Each center used a worksheet to report the following data: demographic, modality of PD, chronic kidney disease (CKD) etiology, co-morbidities, PD and RRT vintages, first modality of RRT, reasons for HD transfer, adequacy indexes, peritoneal membrane transport characteristics and number of previous peritonitis episodes.

Statistical analysis: t-Student for continuous and chi-square for nominal variables.

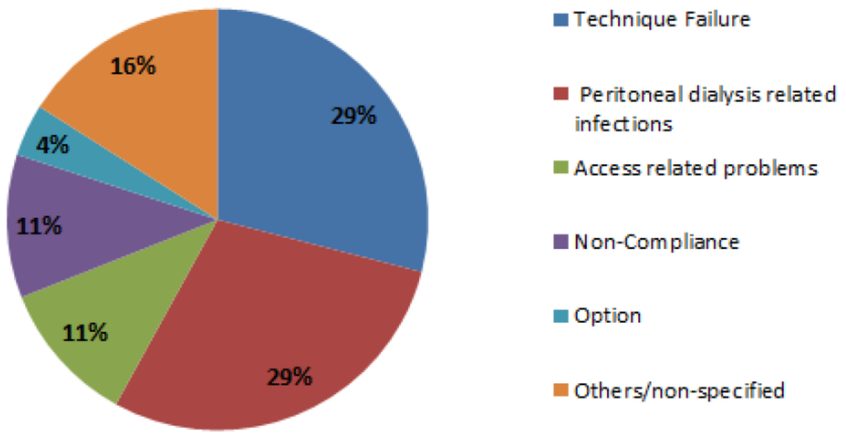
Results

2013

112 (17%) pts were tranferred to HD -Group I

549 (83%) pts remained on PD at 31st December - Group II

Causes of HD Transfer



Demographics

	Group I	Group II	*p* value
Age (y)	52.85±15.83	54.67±15.25	0.253
Male Gender (%)	60.7	59.2	0.426
RRT vintage (y)	4.81±5.89	3.87±4.98	0.083
PD vintage (y)	2.45±2.02	2.33±2.00	0.588
PD as first RRT (%)	63.4	72.3	0.068
Reason for PD (%)			
Option	83	86.7	
Vascular access prob	17	13.3	0.482

CKD Etiology

	Group I	Group II	*p* value
Chronic GN (%)	30.4	27.5	
Diabetic Neph. (%)	18,8	18.2	
Chronic PN (%)	12.5	13.1	
Hypertension (%)	8.9	10.9	
ADPKD(%)	5.4	7.5	
Unknown (%)	17.9	18.8	0.984

PD Related Parameters

	Group I	Group II	*p* value
APD (%)	53.6	44.1	0.077
Daily PD volumes (L)	10.23±3.54	8.8±3.11	0.000
Bicarbonate based PD solutions(%)	87.5	77.4	0.015
Icodextrin use (%)	72.3	54.5	0.001
Adequacy			
Weekly k/V urea	2.05±0.6	2.24±0.66	0.004
Weekly creat clear (L)	74.1±34.05	87.0±43.28	0.001
Daily UF (L)	1.7±0.88	2.0±0.784	0.000
Anuric (%)	25	15.3	0.022
Transport type			
Low	3.5	5.3	
Average	82.4	83.8	0.530
High	14.4	10.8	
Peritonitis (ep/pt)	1.48	0.83	0.001

Comorbidities

	Group I	Group II	*p* value
Diabetes (%)	18.8	18.4	0.511
Ischaemic heart disease (%)	17	10.9	0.055
Heart failure (%)	12.5	10.6	0.324
Cerebrovascular Disease (%)	6.2	3.3	0.113
Neoplasia (%)	4.5	3.6	0.421

Multivariate Analysis
(logistic regression)

	p value	Exp(B)	CI (95%)
Daily UF	0.01	0.416	0.217-0.810
Peritonitis	0.001	2.147	1.358-3.395
Icodextrin	0.007	0.513	0.316-0.831

Conclusion

Infectious complications and technical failure were the main reasons for PD transfer to HD in this cohort despite more intensive PD prescriptions in the group who left PD. In fact, multivariate analysis highlighted total daily UF and the number of peritonitis as the most relevant differences among groups.

Techniques to optimize volume control (either by using colloid solutions or by preserving residual renal function), to preserve peritoneal membrane and to prevent PD related infections may sustain patients longer in this modality.

DOI: 10.3252/pso.eu.52era.2015

ePosters supported by F. Hoffmann- La Roche Ltd.