

DIFFERENCES BETWEEN NON-GERIATRIC AND GERIATRIC PERITONEAL DIALYSIS PATIENTS WITH REGARD TO NUTRITIONAL PARAMETERS

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Introduction and Aims:

Peritoneal dialysis is a well accepted home based therapy even in geriatric patients. Geriatric patients are presenting faster transport rates than non-geriatric patients apparently related to the presence of hypoalbuminemia. The aim of the study was to evaluate differences in nutritional parameters between non geriatric and geriatric peritoneal dialysis patients.

Methods:

We evaluated nutritional parameters at the first peritoneal equilibration test after dialysis start 6 months together with peritoneal and renal clearance data in non-geriatric (age < 75 years) and geriatric patients (age ≥ 75 years). Data of 118 non-geriatric patients (78 male, 40 female) and of 49 geriatric patients (29 male, 20 female) could be acquired (table1). Mann-Whitney test was used for the comparison of groups.

Results:

Median age of non-geriatric patients was 63 years, in confront to geriatric patients of 79 years. Body mass index was similar in both groups (median 25.8 versus 27.0 kg/m²). Geriatric patients showed lower albumin (median 3.3 versus 3.7 g/l, p<0.01), lower normalized protein equivalent of nitrogen appearance nPNA (median 0.86 versus 0.98 g/kg/day, p=0.02), lower potassium (median 4.10 versus 4.50 mEq/l, p<0.01), lower phosphorous (median 4.45 versus 5.15 mg/dl, p=0.02, despite lower pill burden), and lower daily fluid removal (sum of urine volume and peritoneal ultrafiltration) (median 1310 versus 1780 ml, p<0.01).

Hypoalbuminaemia (<3.5 g/l) was more frequent in geriatric patients (69.4% versus 38.1%). Mean peritoneal protein loss was similar in both groups (600 mg/day).

There were no statistical differences regarding C-reactive protein, erythrocyte sedimentation rate, beta 2 microglobulin and haemoglobin. Mean corpuscular volume of red blood cells was significantly higher in geriatric patients (median 92.2 versus 89.9 fl, p<0.01).

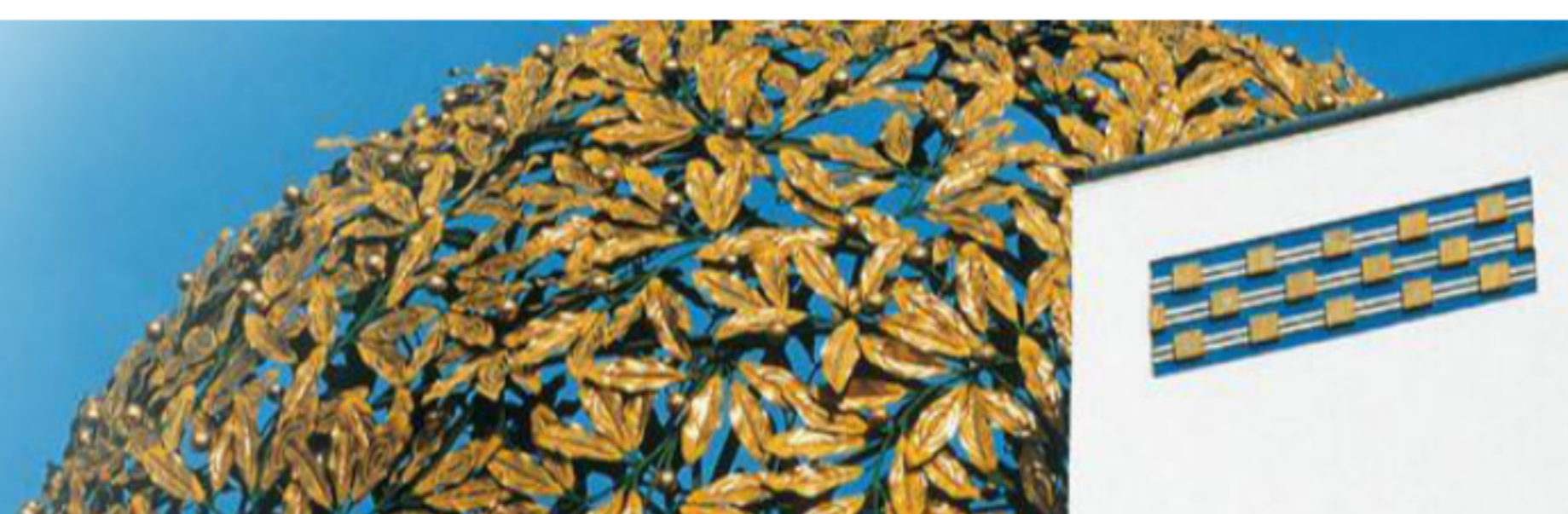
Furthermore there were no statistically significant differences in peritoneal creatinine and urea clearances. Due to lower urinary clearances, geriatric patients showed insignificantly lower total Kt/V and creatinine clearance.

Conclusions:

Geriatric patients are presenting signs of reduced protein, potassium, phosphorous and vitamin intake, already during the initial period of peritoneal dialysis. Nutritional counseling and support should be offered prematurely, especially for geriatric patients.

Table 1: Patient characteristics of non-geriatric and geriatric patients.

Median values	Non-geriatric patients (<75 years) n=118	Geriatric patients (≥75 years) n=49
Age [years]	63	79 *
Sex [male/female]	78 m / 40 f	29 m / 20 f
BMI [kg/m ²]	25.8	27.0
Albumin [g/l]	3.7	3.3 *
Albumin <3.5g/l [%]	38.1	69.4 *
nPNA [g/kg/day]	0.98	0.86 *
Potassium [mEq/l]	4.5	4.1 *
Phosphorous [mg/dl]	5.2	4.5 *
Peritoneal UF [ml/day]	522	563
Diuresis [ml/day]	1300	750 *
Fluid removal [ml/day]	1780	1310 *
C reactive protein [mg/dl]	0,30	0,41
Eritrocyte sedimentation rate [mm/hour]	58	72
B2 microglobulin [mcg/ml]	20.4	21.7
Haemoglobin [g/dl]	11.5	11.4
Mean corpuscular volume [fl]	89.9	92.2 *
Perit. Protein Loss [mg/day]	580	620
Renal Kt/V	0.86	0.73
Renal Creatinine Clearance [l/week]	61.61	50.70
Perit. Kt/V	1.24	1.31
Perit. Creatinine Clearance [l/week]	30.79	35.48 *
		* p<0.05



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