

(UN)EXPECTED IMPACT OF ACQUIRED RENAL CYSTIC DISEASE ON PARAMETERS OF ANEMIA

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INTRODUCTION AND AIMS: Acquired renal cystic disease (ARCD) is frequent complications in dialysis patients. Previous data on ARCD referred the risk for malignancy and, in pre-EPO era, a positive impact on the correction of anemia. The aim of the study was to compare the grade of ARCD with parameters of anemia, malnutrition and inflammation in patients on peritoneal (PD) and hemodialysis (HD).

MATERIALS AND METHODS: Our study included 92 dialysis patients (56 men and 36 women; mean age 63.6±12.0 years). Their native kidneys were examined with by ultrasound device (3.5 MHz convex probe). Depending on the number of cysts in the kidney, patients were classified according to three grades: grade 0: no cysts; grade 1: ≤10 cysts in both kidneys; grade 2: >10 cysts in both kidneys.

RESULTS: HD patients had significantly longer dialysis vintage as compared with PD patients and they had more frequently renal cysts and larger number of cysts (p=ns) (Table 1).

Table 1. Prevalence of ARCD in patients on hemodialysis and peritoneal dialysis

	n	sex		mean age	dialysis vintage (m.)	cysts / yes	number of cysts
		m	f				
HD patients	73	57.5 %	42.5 %	63.7 ±12.3	75.2 ± 55.5	83.6 %	7.5 ± 13.2
PD patients	19	73.7 %	26.3 %	63.4 ± 11.0	44.9 ± 33.4	68.4 %	4.4 ± 6.4
p		>0.05		>0.05	0.016	>0.05	>0.05

Patients with higher grade of ARCD were significantly longer on dialysis. They required significantly higher dose of ESA and had significantly higher ESA resistance index (Table 2). Only one patient had Bosiak grade 3 cyst confirmed by CT (one year after examination he had multiple liver metastasis).

Table 2. Grading of ARCD and parameters of anemia, malnutrition and inflammation

	grade 0 n=22	grade I n=49	grade II n=21	p
age (y.)	61.6 ± 13.5	64.8 ± 11.9	63.2 ± 10.8	>0.05
Dialysis vintage (m.)	42.1 ± 41.5	70.8 ± 57.6	92.9 ± 40.3	0.006
HgB (g/dL)	10.4 ± 0.7	10.5 ± 0.9	10.5 ± 1.0	>0.05
ESA weekly (I.U.)	3472 ± 2452	4794 ± 2520	8000 ± 5879	<0.001
ERI (U/kg/week)	5.4 ± 4.2	7.7 ± 4.6	10.9 ± 2.8	0.007
CRP (mg/L)	8.1 ± 7.2	8.2 ± 8.3	13.0 ± 17.7	>0.05
S-albumin (g/L)	37.5 ± 3.8	37.5 ± 3.3	37.7 ± 3.6	>0.05
BMI (kg/m ²)	25.6 ± 5.3	24.6 ± 5.1	24.1 ± 3.9	>0.05
Kt/V (only HD patients)	1.23 ± 0.25	1.41 ± 0.28	1.40 ± 0.26	>0.05

Binary logistic regression has shown that dialysis vintage (Exp(B) 1.025; 95% CI 1.007 – 1.043; P=0.005) and age of patients (Exp(B) 1.054; 95% CI 1.003 – 1.107; P=0.037) were independent predictors for ARCD (but not gender, dialysis type, level of hemoglobin and CRP) which may explain the difference between PD and HD group of patients.

CONCLUSION: Our results have shown that ARCD is still a frequent finding in dialysis patients. They may be a source/indicator of a 'silent' inflammation and ESA resistance that require higher dose of ESA. Age of patients and dialysis vintage were independent predictor for ARCD.

