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Cutaneous manifestations in hemodialysis patients and assessment of the changes in quality of life after 12 weeks treatment by dermatologist

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Objectives: Cutaneous disorders are common problem and disturbing quality of life for patients on long term hemodialysis. Even dialysis patients frequently visit the hospital, they do not receive active dermatologic care. The aim of this study was to investigate changes in quality of life of hemodialysis patients before and after treatment performed by dermatologist.

Methods: A total of 119 patients from two dialysis centers were included in this study. A 12-weeks long, prospective study was conducted with hemodialysis patients. One center received dermatologic intervention and the other received conventional supportive management in dialysis room as control group. Patients scored their quality of life using a questionnaire, Dermatology Life Quality index (DLQI), on start of study and 12 weeks later. Dermatologist evaluated dermatologic examination (skin biopsy, culture, gram stain or potassium hydroxide) and treated according to patients specific problems in intervention group during 12-weeks. Patients were matched between two groups according to propensity score. The primary end point was the improvement of DLQI. Adjusted logistic regression were used to identify associations of treatment and DLQI outcomes.

Results: A total of 96 patients were evaluated after propensity score matching. After 12 weeks, 16 of 48 patients (33.3%) in intervention group and 25 of 48 (52.1%) in control group were improved DLQI score. A significant difference was noted in the levels of hemoglobin, serum phosphorous and parathyroid hormone between two groups. In the multivariable logistic analysis, dermatologic intervention group was not significantly improved of DLQI score (odds ratio, 1.56; 95% confidence interval, 0.52-4.98, p = 0.43) compared with control group.

Conclusions: Patients treated with dermatologic intervention by dermatologist had not improved in quality of life compared with control group.

Table 1. Baseline characteristics

Table 1. Baseline characteristics of the study patients

Characteristics	Intervention group (n=48)	Control group (n=48)	*P*
Age (years)	61.73 ± 12.32	62.29 ± 11.15	0.815
Male (men)	31 (64.58%)	29 (60.42%)	0.833
Co-morbidity			
Hypertension	43 (89.58%)	41 (85.42%)	0.758
Diabetes	27 (56.25%)	34 (70.83%)	0.203
Cerebrovascular disease	8 (16.67%)	12 (25.00%)	0.451
Coronary artery disease	7 (14.58%)	18 (37.50%)	0.02
Hemoglobin (g/dL)	10.33 ± 1.21	11.00 ± 0.96	0.001
Albumin (g/dL)	3.75 ± 0.37	3.62 ± 0.33	0.093
Phosphorous (mg/dL)	5.03 ± 1.79	4.04 ± 1.25	0.002
Calcium (mg/dL)	8.84 ± 0.71	8.95 ± 0.86	0.52
Parathyroid hormone (pg/mL)	210.06 ± 280.22	328.76 ± 280.09	0.041

Table 2. Logistic regression analysis

Table 2. Logistic regression analysis for improvement of DLQI

Risk factors	Univariate Odds ratio (95% CI)	p	Multivariate Odds ratio (95% CI)	p
Coronary artery disease	1.44 (0.37-5.67)	0.60		
Hemoglobin	0.76 (0.42-1.32)	0.33		
Albumin	0.63 (0.07-5.25)	0.66		
Phosphorous	1.12 (0.70-1.84)	0.63		
Parathyroid hormone	0.99 (0.99-1.00)	0.45		
Group				
Intervention group	1.99 (0.44-10.12)	0.38	1.56 (0.52-4.98)	0.43