GENDER DIFFERENCES IN TREATMENT PATTERNS AMONG PREVALENT HEMODIALYSIS PATIENTS: A CROSS-SECTIONAL REGISTRY-BASED STUDY

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OBJECTIVES

Treatment patterns could substantially vary among hemodialysis (HD) patients. We investigated how demographic, clinical and laboratory parameters differed between male and female prevalent HD patients.

METHODS

We performed the analysis of the Russian Registry of Renal Replacement Therapy with inclusion of 10,342 HD patients ≥18 years old for which extended individual level data were provided by facilities in the year 2013. They represented 39.2% of all patients treated by HD at 31/12/2013 in Russia. 241 HD prevalent patients with no data on gender were excluded from the analysis. All demographic, clinical and laboratory parameters concern December 2013.

RESULTS

There were 5,518 male (53.4%) and 4,824 female (46.6%) HD patients. Males were younger (P<0.0005), had lower Charlson comorbidity index (P<0.0005), and lower percentage of diabetics (P<0.0005). Body mass index was higher in females (P<0.0005), while both height and weight were higher in males (P<0.0005). spKt/V was much higher in females (P<0.0005). Females had better control of blood pressure, with lower systolic (P<0.0005) and diastolic (P<0.0005) blood pressure, and lower proportion of patients with hypertension ≥140/90 mm Hg (55.4% in females, 66.1% in males, P<0.0005). spKt/V statistically significantly correlated with diastolic (rho=-0.14, P<0.0005) but not systolic (P=0.91) blood pressure. Females had lower hemoglobin (P<0.0005), albumin (P<0.0005), and total calcium (P<0.005), as well as higher total cholesterol (P<0.0005). Females had higher percentage of patients within target hemoglobin (≥100 g/L and ≤115 g/L) (42.8% in females vs 38.9% in males, P<0.0005), and also higher proportion of patients with hemoglobin less then 100 g/L (27.0% vs 21.9%, respectively, P<0.0005). There were no statistically significant gender differences in percentage of rural residents, levels of serum phosphorus and parathyroid hormone. But among females there were higher percentage of patients with parathyroid hormone ≥600 pg/mL (29.8% vs 27.7%, P<0.03).

RESULTS

Table. Demographic, clinical and laboratory characteristics for prevalent HD males and females patients

Parameter	Males	Females	P
Age, years	52.1±13.7	54.6±13.3	<0.0005
% rural	24.0	23.1	0.26
% diabetics	12.0	15.7	<0.0005
Charlson comorbidity index	3 [2; 5]	4 [3; 5]	<0.0005
Body mass index, kg/m2	26.2±8.7	27.1±6.1	<0.0005
Height, cm	172.9±7.9	161.0±7.4	<0.0005
Weight, kg	78.1±16.2	70.2±16.4	<0.0005
BP systolic, mm Hg	142.3±17.7	137.7±19.4	<0.0005
BP diastolic, mm Hg	82.0±10.8	78.7±10.8	<0.0005
spKt/V	1.40±0.26	1.54±0.39	<0.0005
Albumin, g/L	40.4±4.3	39.6±4.3	<0.0005
Hemoglobin, g/L	110.7±16.2	107.2±15.4	<0.0005
Total calcium, mmol/l	2.24±0.26	2.25±0.26	<0.005
Phosphorus, mmol/l	1.72±0.57	1.71±0.52	0.77
Parathyroid hormone, pg/ml	340 [167; 645]	336 [156; 682]	0.65
Total cholesterol, mmol/L	4.6±1.1	5.0±1.2	<0.0005

CONCLUSIONS

We revealed important gender differences in HD treatment patterns. Higher spKt/V in females could be explained by the lower body size and distribution volume in comparison with males. Better control of hypertension among females could be attributed to a higher achieved spKt/V, as well as hypothetically stricter following the dietary advice and medication adherence. Reasons for higher prevalence of anemia, secondary hyperparathyroidism, as well as lower albumin and higher total cholesterol among females should be evaluated in further studies. Stricter monitoring of these HD treatment quality indicators required among females.

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