

SERUM 25-HYDROXY VITAMIN D LEVEL IS ASSOCIATED WITH INTERVENTRICULAR SEPTAL HYPERTROPHY IN PATIENTS ON PERITONEAL DIALYSIS

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OBJECTIVES

Inactivated form of vitamin D; 25 hydroxycholecalciferol (25-OH-D3); reflects endogenous production of vitamin D. In the present study, we aimed to analyze the relation of vitamin D with echocardiographic indexes in patients with end stage renal disease (ESRD) receiving renal replacement therapy (RRT).

METHODS

A total of 98 patients; 64 patients on hemodialysis (HD) (29F/35M, mean age 56.75±18.63 years, mean duration of RRT was 43.01±40.2 months) and 34 age matched patients on peritoneal dialysis (PD) (21F/13M, mean age 58.11±10.63 years, mean duration of RRT was 28.88±20.33 months) with similar duration of ESRD and RRT were enrolled into this prospective study. Echocardiographic examination was performed after dialysis session at normovolemic status. Fasting blood samples were obtained before dialysis session. All cases were detected by iE33 xMATRIX Echocardiography System to detect left ventricular end-diastolic dimension (LVEDD), Left atrial diameter (LAD), Left ventricular posterior wall thickness in diastole (LVPWT), Interventricular septum thickness in diastole (IVST), left ventricular ejection fraction (LVEF). Patients with severe hypertension, hyperparathyroidism, pregnancy, left ventricular ejection fraction (LVEF) <50%, moderate to severe valvular disease or younger than 18 years were excluded. Biochemical parameters, parathyroid hormone, 25-OH-D3 levels of patients were examined. Also demographic features and parameters of dialysis adequacy of patients were compared.

RESULTS

Patients on PD had significantly lower level of 25-OH-D3 level when compared to patients on HD (p:0.0001). Women in both groups had low 25-OH-D3 level (p:0.0001). There was no significant difference between groups in terms of serum calcium, phosphorus, parathormon, albumin, alkaline phosphatase (ALP). LDL were significantly higher in PD patients (p:0.0001). When all participants were considered, there was no significant association between 25-OH-D3 with echocardiographic parameters; however in patients on PD, a significant negative correlation was determined between 25-OH-D3 with diastolic blood pressure and interventricular septal hypertrophy (respectively; r:-0.424, p:0.012; r:-0.508, p:0.004).

CONCLUSIONS

Owing to the fact that patients on PD spend greater portion of time indoors, they should be encouraged to enhance sunlight exposure. Low serum 25-hydroxyvitamin D levels are associated with interventricular septal hypertrophy which is a significant predictor of cardiovascular morbidity in end stage renal disease.

