

LOW SERUM 25-HYDROXY VITAMIN D3 MAY REFLECT INCREASED THROMBOTIC AND INFLAMMATORY ACTIVITY IN PATIENTS ON DIALYSIS THERAPY

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OBJECTIVES

There is an increased tendency to inflammation and thrombotic activity in patients with end stage renal disease (ESRD). Lack of available data exist on proinflammatory and prothrombotic properties of 25-OH-D3. In the present study, we aimed to analyze the relation of vitamin D with inflammatory parameters and hematologic parameters in patients with ESRD receiving renal replacement therapies (RRT).

METHODS

A total of 104 patients with ESRD receiving RRT were enrolled into this prospective study. Seventy patients on hemodialysis (HD) (31F/39M, mean age 56.59±18.19 years, mean duration was 53.96±50.87 months) and 34 age matched patients on peritoneal dialysis (PD) (22F/12M, mean age 53.26±10.6, mean duration was 53.17±25.72 months) with similar duration of ESRD and RRT from same geographical area that have similar sunlight exposure. Duration of sunlight exposure was determined by interviewing with patients. Patients having pre-existing current malignant diseases, pregnancy, severe anemia (hematocrite < % 27), acute infection and connective tissue disorder were excluded. Fasting blood samples were obtained before dialysis session to analyze serum creatinine, C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), leukocyte count, platelet count, plateletcrit (PCT), hemoglobin, hematocrite and 25-OH-D3.

RESULTS

There was no significant difference between patients on PD and HD in terms of serum calcium, phosphorus, parathormon, CRP, ESR, ferritin and bicarbonate levels. Leukocyte count, platelet count, hemoglobin, and PCT were significantly higher in PD patients (respectively; p:0.001, p:0.0001, p:0.0001, p:0.001; respectively). When all patients were considered, correlation analysis indicated a significant association between 25-OH-D3 with age, platelet count, PCT, hematocrit, bicarbonate, albumin, creatinine and ESR (respectively; r:-0.214, p:0.035; r:-0.266, p:0.009; r:-0.303, p:0.003; r:0.219, p:0.033; r:-0.255, p:0.013; r:0.299, p:0.003; r:0.210, p:0.041; r:-0.308, p:0.003).

CONCLUSIONS

Serum 25-OH-D3 level is well-correlated with platelet activity and inflammation as reflected by platelet count, PCT and ESR.

