

IMPACT OF VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) ON CORONARY ARTERY DISEASE IN DIALYSIS PATIENTS

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Introduction

Vascular endothelial growth factor (VEGF) promotes endothelial cell proliferation and differentiation and mediates endothelium dependent vasodilatation. Increased serum levels of VEGF have been reported in patients with acute coronary syndromes and gene transfer therapies have been attempted in patients with coronary artery disease (CAD). We evaluated the impact of VEGF levels on the development of CAD in patients with end-stage renal disease.

Patients and methods

We studied n=105 patients on chronic dialysis with angiographically confirmed (n=45) or excluded (n=60) CAD, followed up for 3.5 3.1 years after initiation of dialysis. VEGF serum levels at the time of coronary angiography were determined by ELISA.

Results

A large variation in VEGF levels was noted among the dialysis patients (mean 440.1 314 pg/dl, median 362.9 pg/dl, range 78.5-1672.0 pg/dl, figure 1). A weak negative association of VEGF levels with the time elapsed since the initiation of dialysis was observed ($r=-0.194$, $p=0.062$, figure 2). VEGF levels were not associated with the sex or the age of the patients, the presence of diabetes mellitus, secondary hyperthyroidism, smoking, treatment with statins, or CRP levels (ns). VEGF levels did not differ significantly between patients with angiographically confirmed or excluded CAD (ns, figure 3). There was also no correlation between VEGF levels and the number of affected coronary artery vessels (ns, figure 4). Furthermore, VEGF levels were similar among patients who experienced myocardial infarction (ns, figure 5) or underwent revascularization during follow up and the rest of the cohort (ns, figure 6).

Figure 1

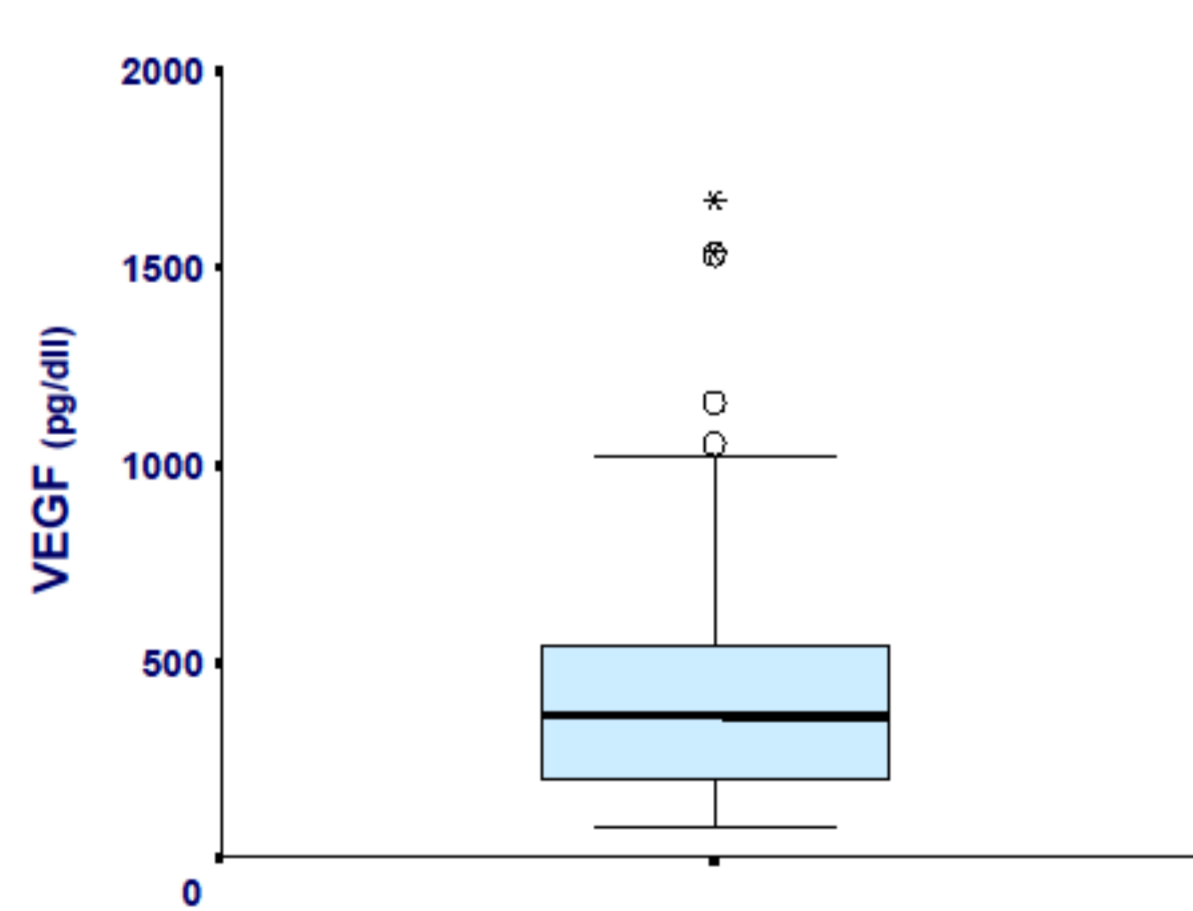


Figure 2

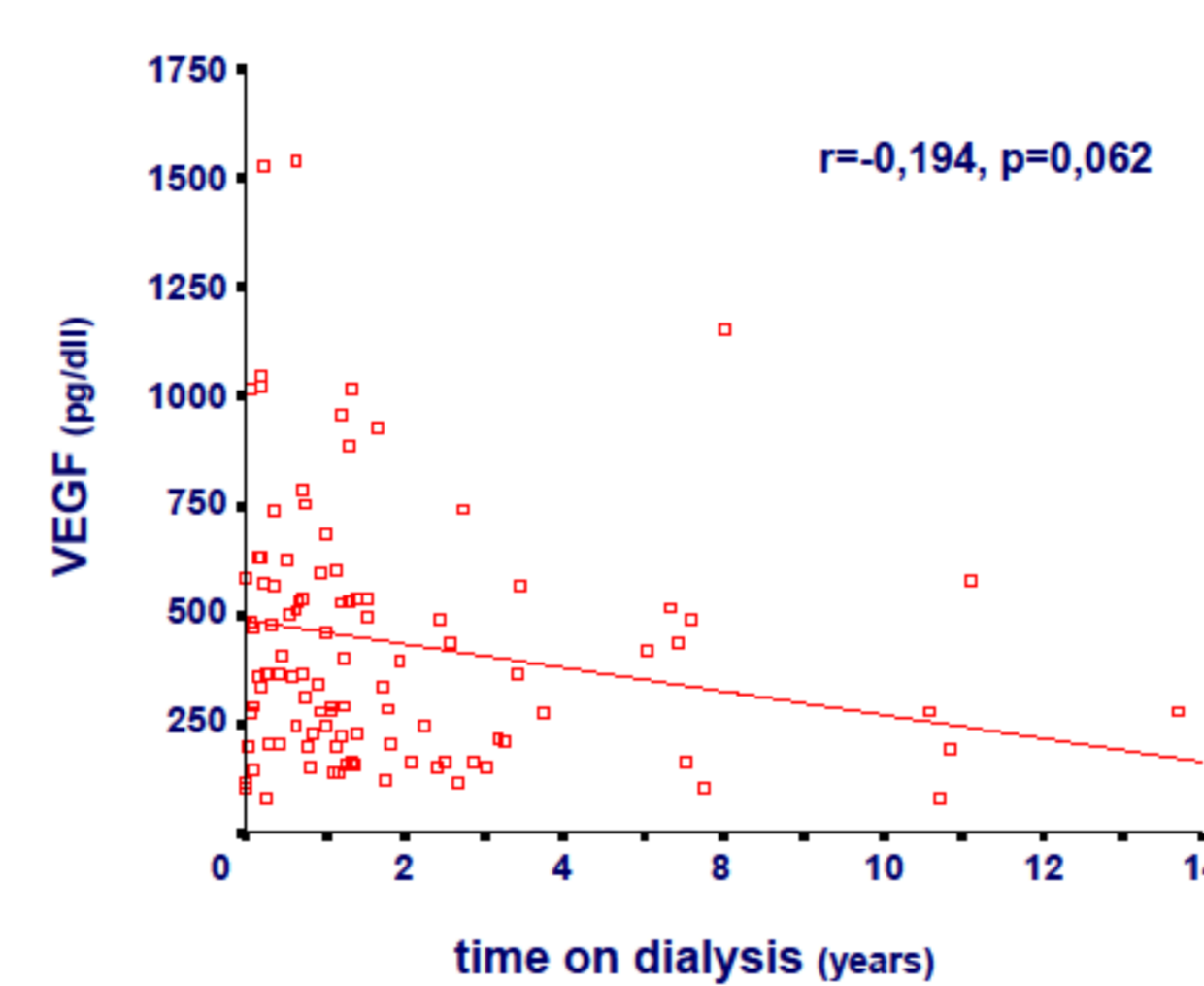


Figure 3

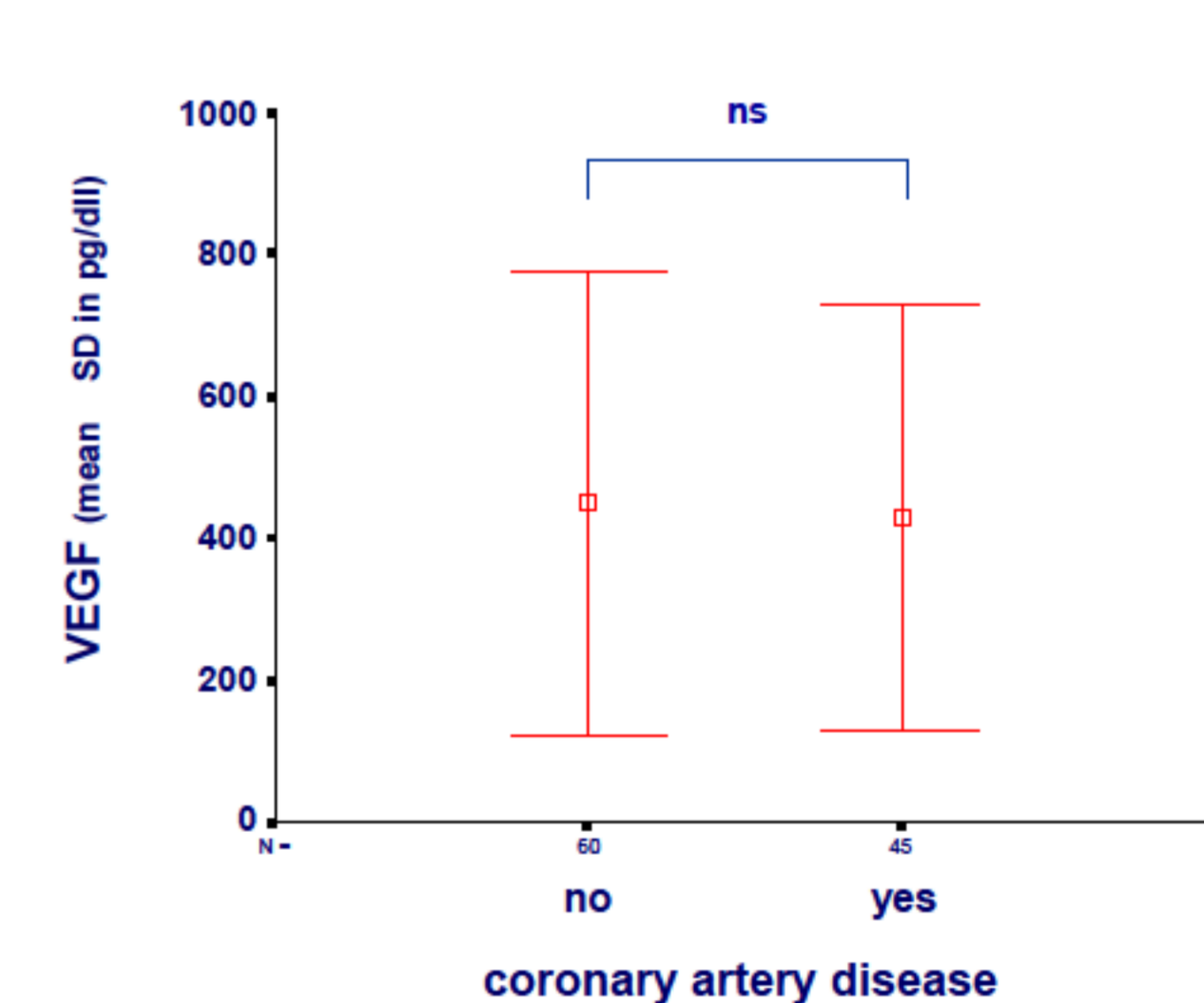


Figure 4

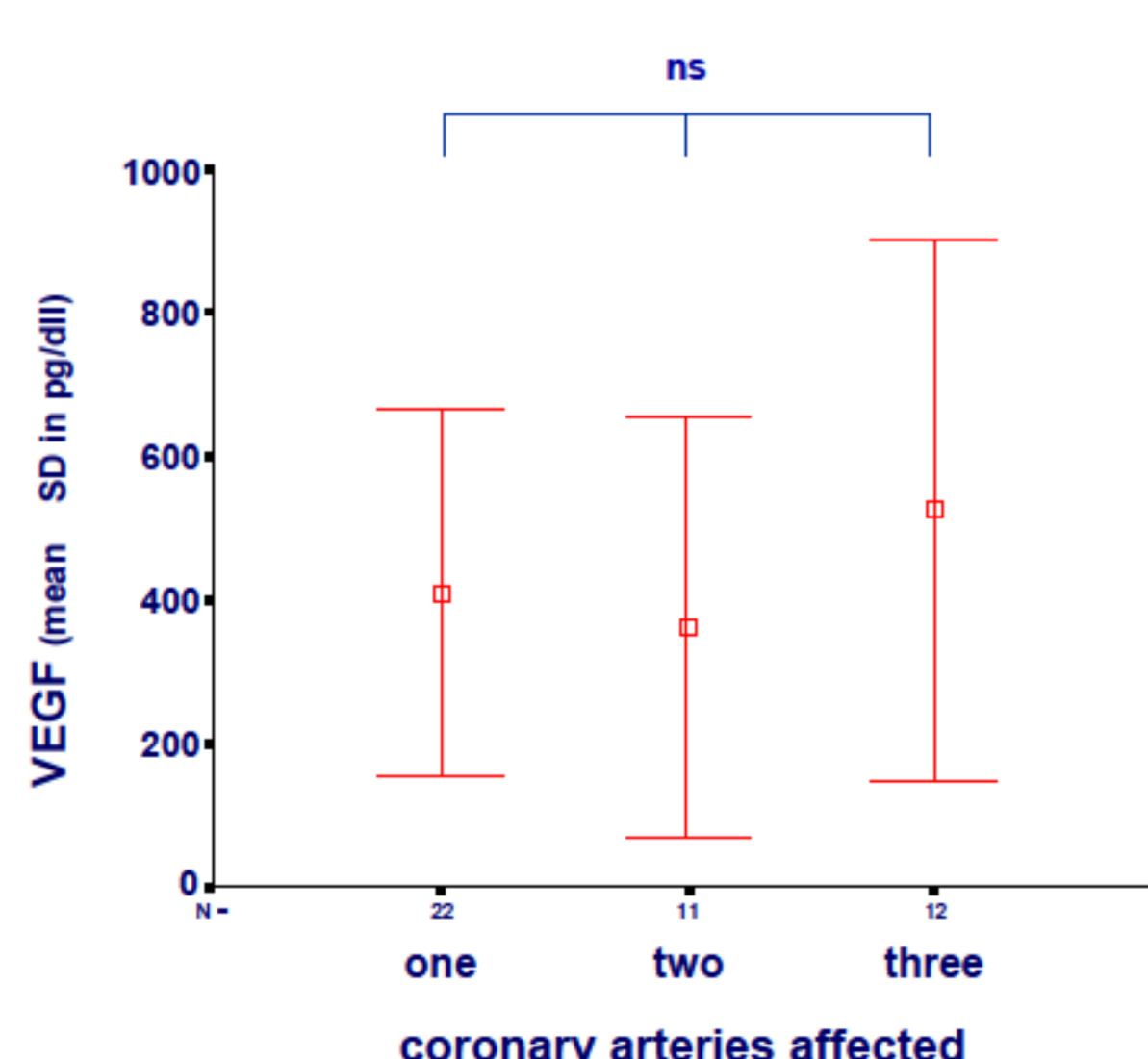


Figure 5

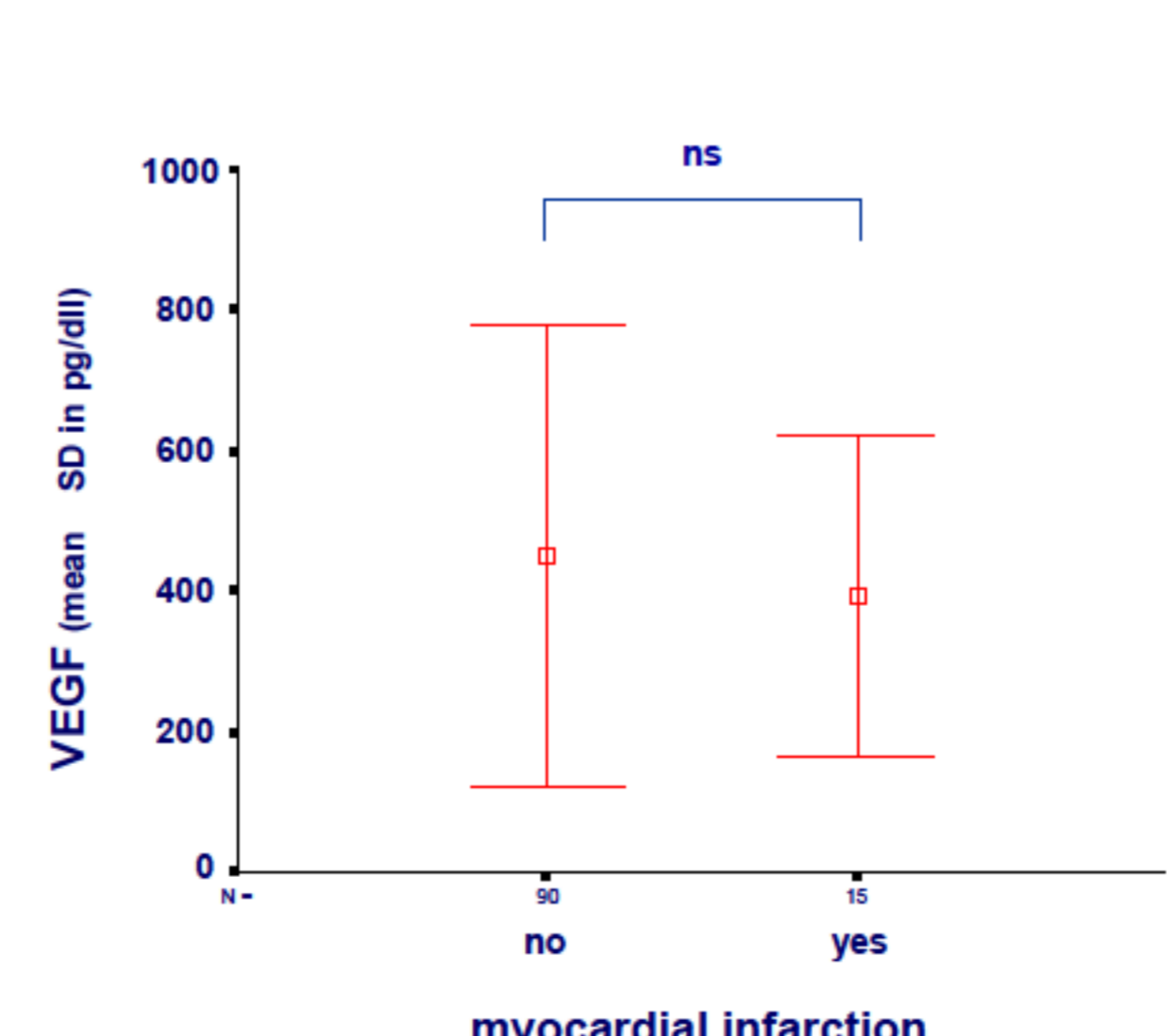
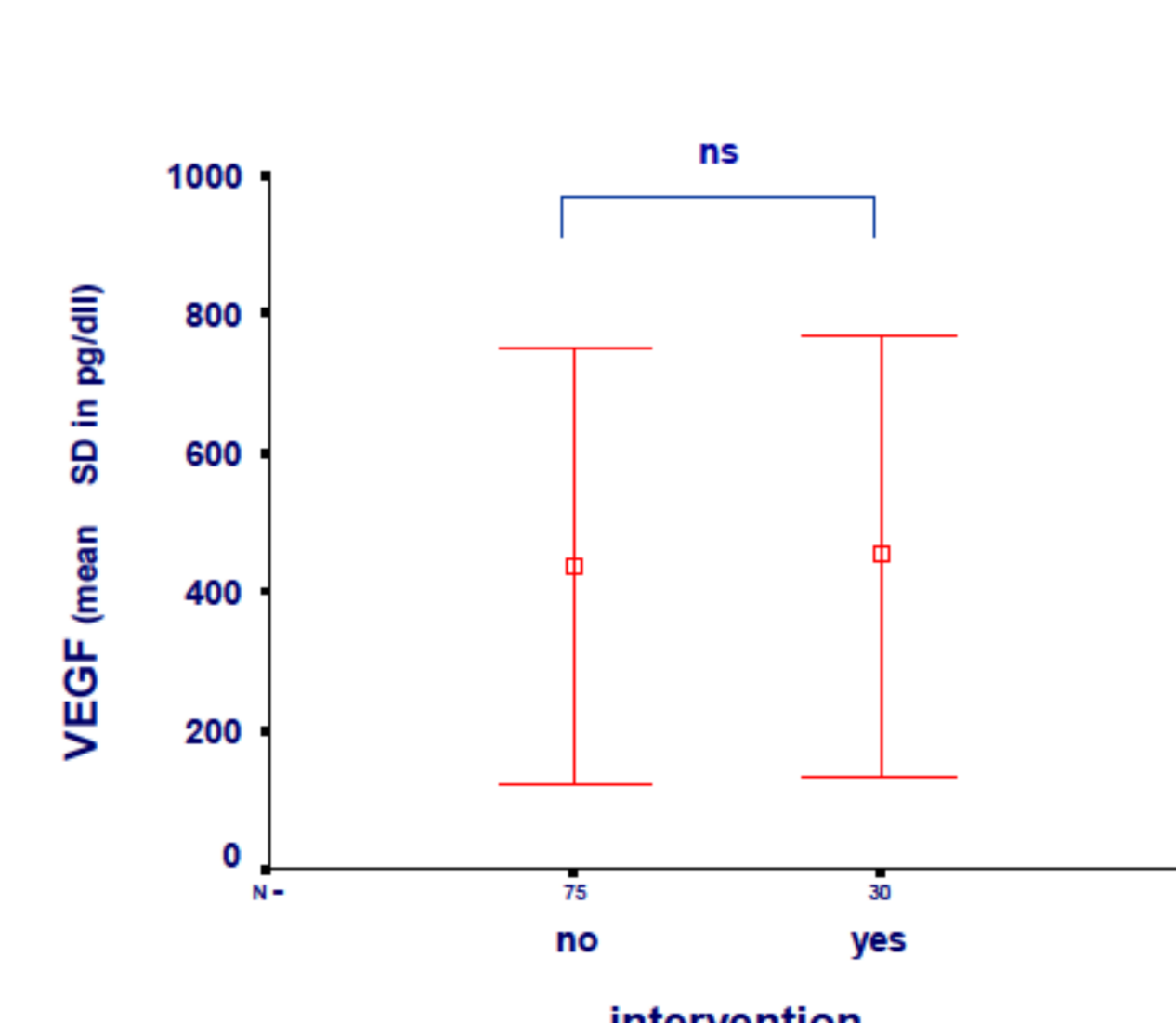


Figure 6



Conclusions

According to our results, VEGF levels are not associated with the development of coronary artery disease in chronic dialysis patients.

