

# CORRELATION BETWEEN TESTOSTERONE LEVELS IN MALE HEMODIALYSIS PATIENTS AND CARDIOVASCULAR RISK PARAMETERS

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## INTRODUCTION AND AIMS

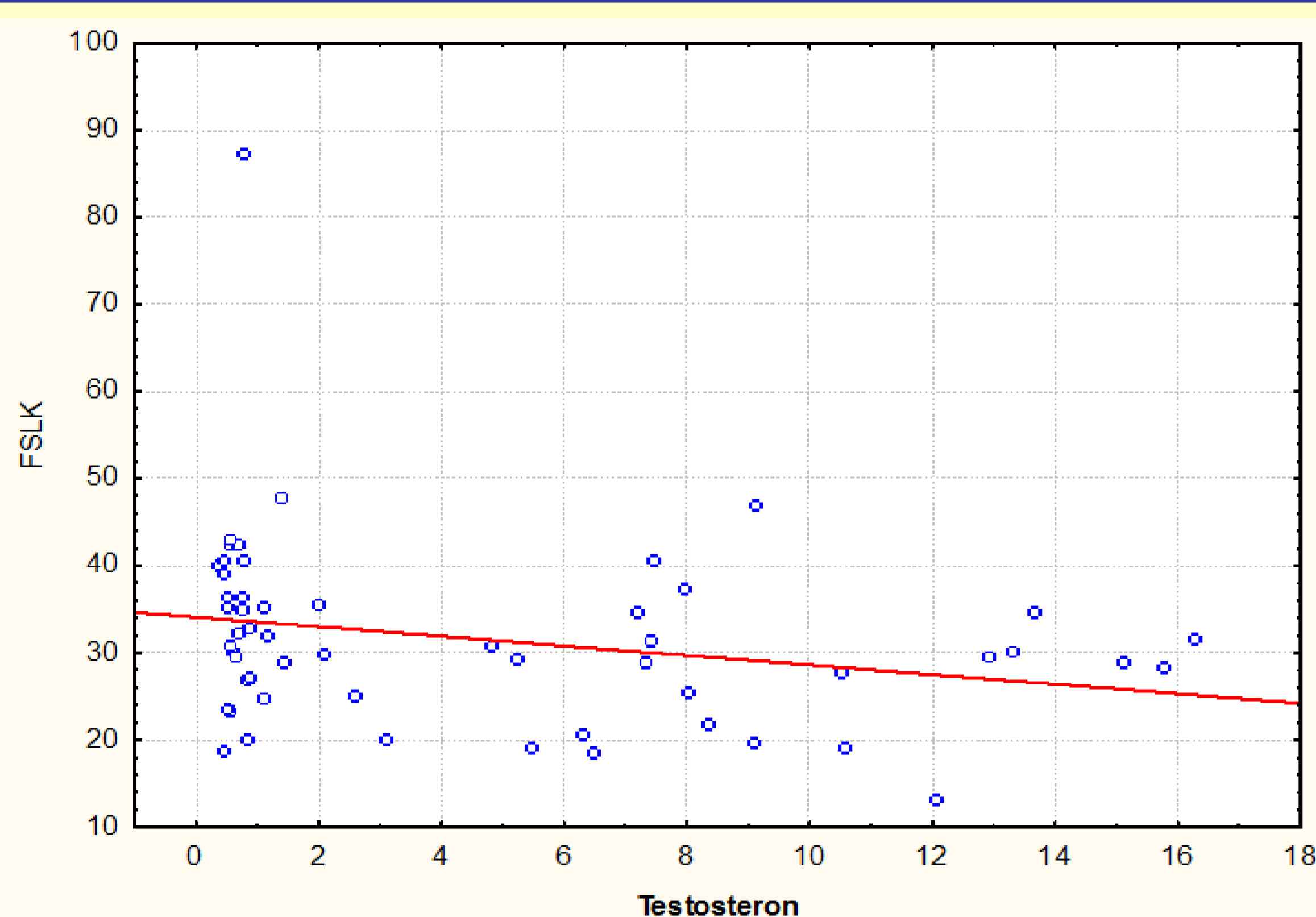
Low serum testosterone levels in hemodialysis patients have recently been associated with cardiovascular risk factors and increased mortality. Testosterone deficiency is a common finding in hemodialysis patients, most probably as a result of altered sex-hormone metabolism. Low testosterone levels were associated with endothelial dysfunction and atherosclerosis. Low testosterone level is associated with poor nutritional status and increased inflammation in hemodialysis patients.

## METHODS

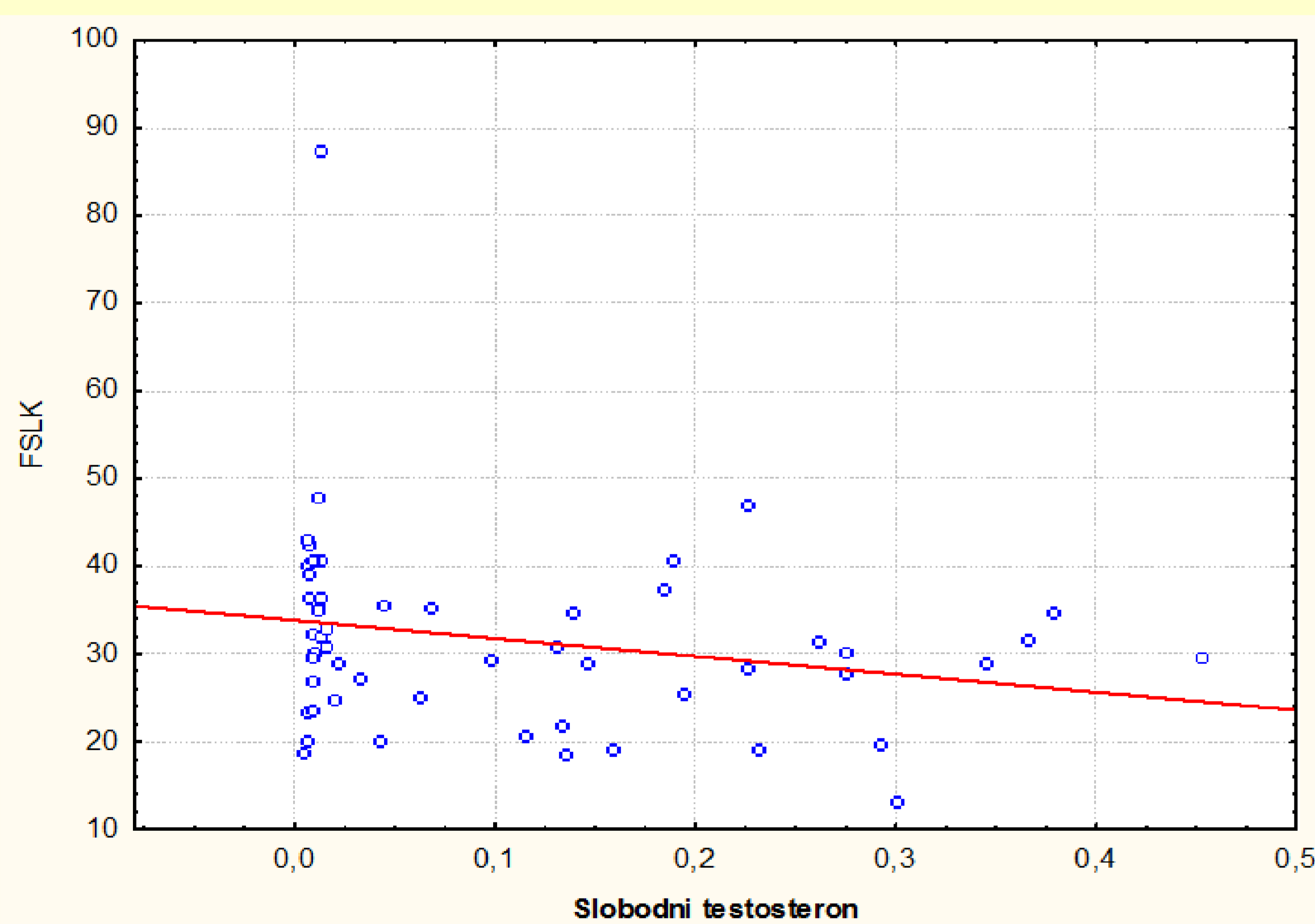
The aim of study was to examine the correlation between the testosterone levels and structural and functional changes of the heart in hemodialysis patients. Cardiac structural and functional disorders were measured by echocardiography indexes.

## RESULTS

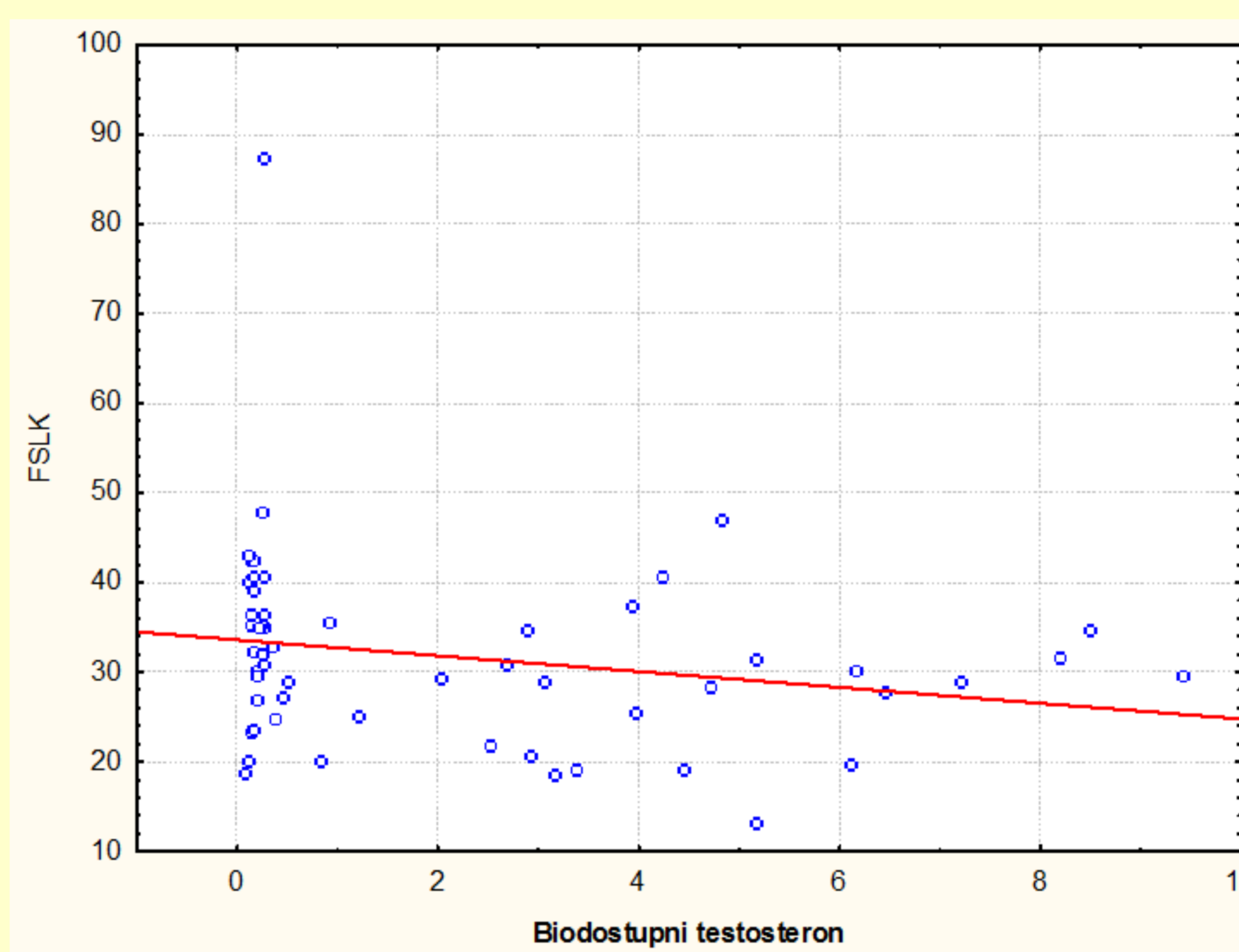
Sixty four hemodialysis patients were enrolled in this study (33 males and 31 females), mean age 56,47±11,79 years and had undergone dialysis for 72 to 6491 days. We got statistically significant low levels of total, bioavailable and free testosterone in large percent of male patients (87,7%). We found statistically significant negative correlation between total, free and bioavailable testosterone levels and fractional shortening of left ventricle (FSLV) (graph 1. and graph 2.). We also found statistically significant negative correlation between total and free and bioavailable testosterone levels and interventricular septal thickness (IVST) and also significant negative correlation between total and free and bioavailable testosterone levels and the thickness of posterior heart wall (graph 3. and graph 4.).



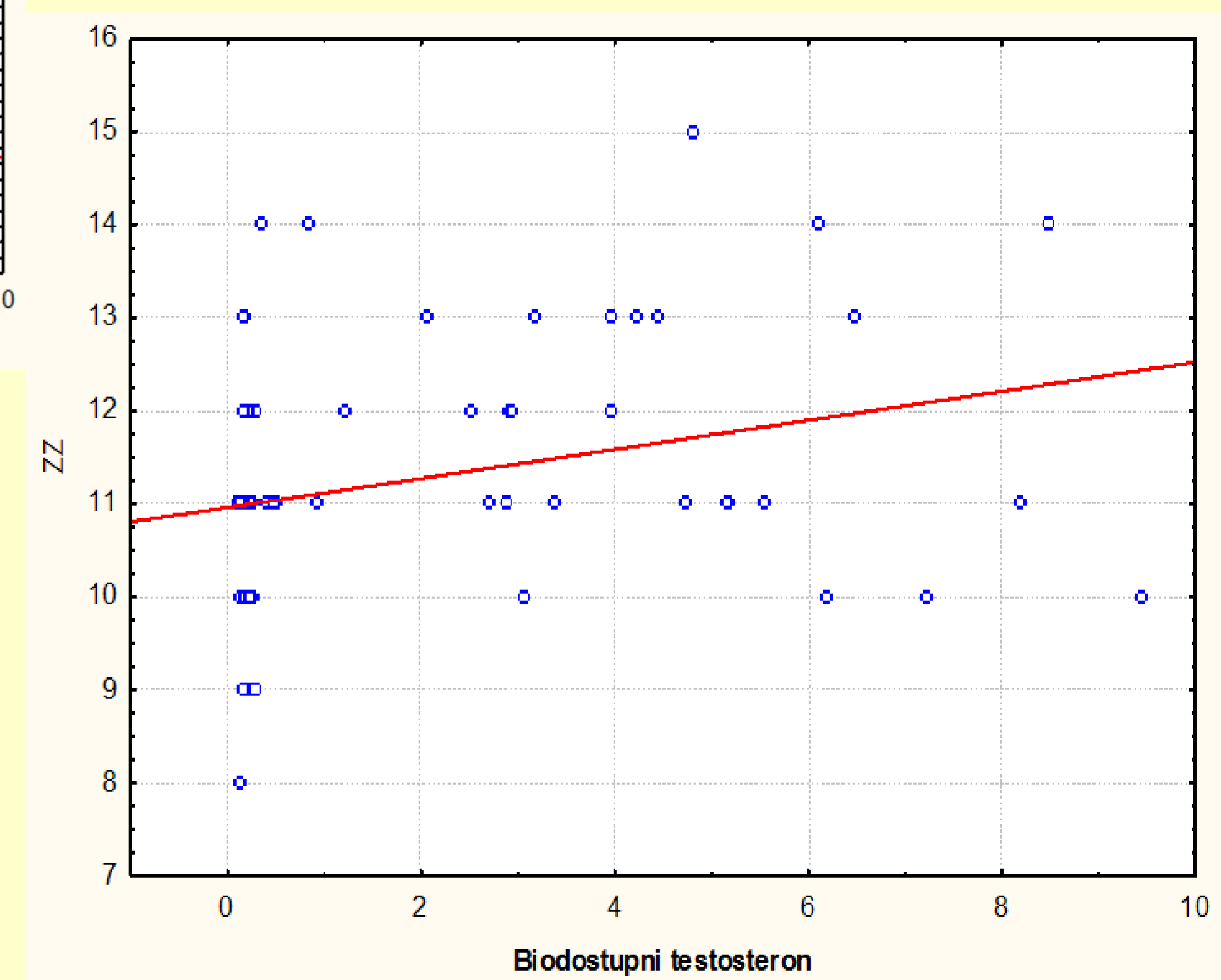
Graph 1. Correlation between testosterone and FSLV



Graph 2. Correlation between free testosterone and FSLV



Graph 3. Correlation between bioavailable testosterone and FSLV



Graph 4. Correlation between bioavailable testosterone and IVST

## CONCLUSIONS

Correlations found in this study indicate the importance of testosterone levels and hypogonadism in male hemodialysis patients and represent a new field of research of treatment and prevention in these patients. Increasing testosterone levels may improve other pathophysiologic pathways that are related to the elevated mortality risk of hemodialysis patients

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