GLYCOPROTEIN SCLEROSTIN AND VASCULAR CALCIFICATION IN PATIENTS WITH CHRONIC KIDNEY DISEASE

Authors: Borisov A.A., Milovanova L.Y., Kozlovscaya L.V., Mukhin N.A., Fomin V.V. contact - Ludm.milovanova@gmail.com

Institution: I.M. Sechenov First Moscow State Medical University, Hospital of Nephrology, Internal and Occupational diseases, *Russia*

OBJECTIVES: *of the study was to investigate the relationship between serum Sclerostin levels and calcification intensity in CKD patients stages 1- 5D.*

METHODS: *The main group included 130 CKD patients (67m / 63f, 20-65 yrs, average age 41 ± 6,7 years) . 30 controls (healthy volunteers) were matched by sex and age. Serum Sclerostin was assessed using ELISA. Brachial and central (aortic) blood pressure (BP) was measured in all the patients, as well as Pulse Wave Velocity (PWV) with a Sfigmokor device (Australia); ECG, EchoCG.*

RESULTS: *A strong correlation [r=0,631, p<0,01] was established between CKD stages and serum Sclerostin. Sclerostin was found to increase as CKD progresses, starting at 3A stage, earlier than serum phosphorus and PTH (CKD stage 4-5) fig.1*

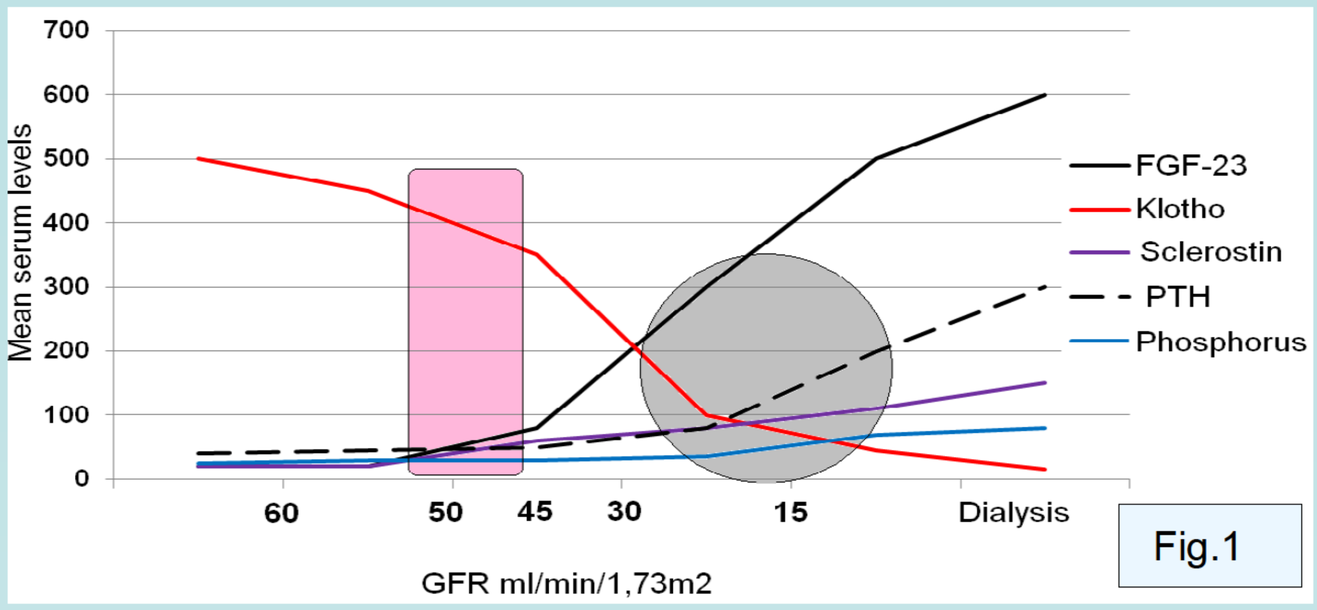

Fig.1

It was also established serum Sclerostin correlated positively with the BP degree (both brachial and central) [r = 0,462; p<0,01; r= 0,574; p<0,01 respectively]. Fig.2

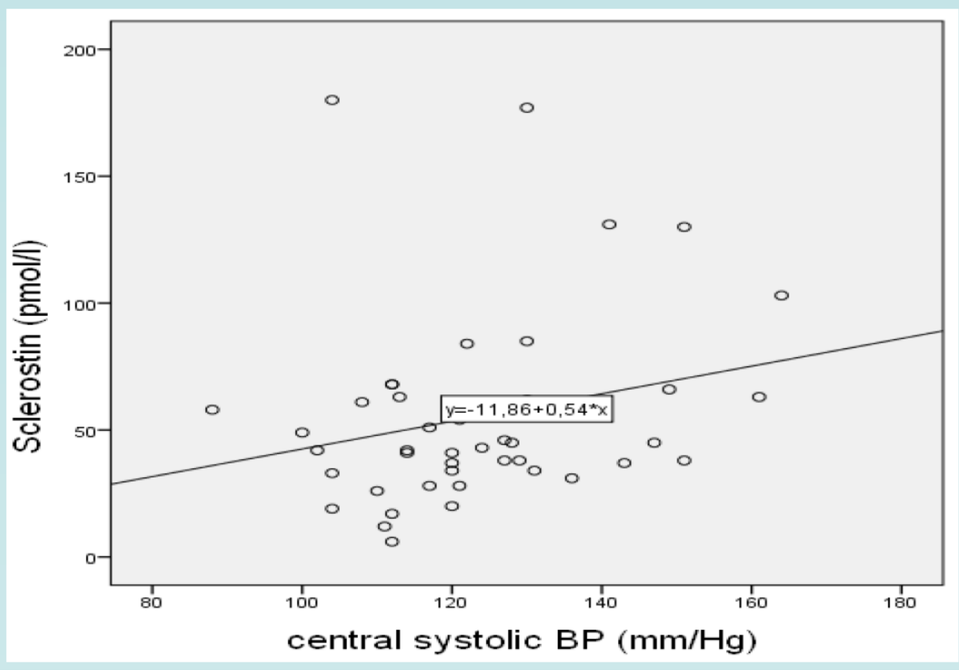

Fig.2

In addition, positive relation was also obtained between serum Sclerostin and PWV [r= 0,541; p<0,01] as well as with degree of heart calcification (Echocardiography) [r=0,627; p<0,01] and abdominal aorta calcification (Kauppila method) [r =0,525;p<0,01]. Fig.3

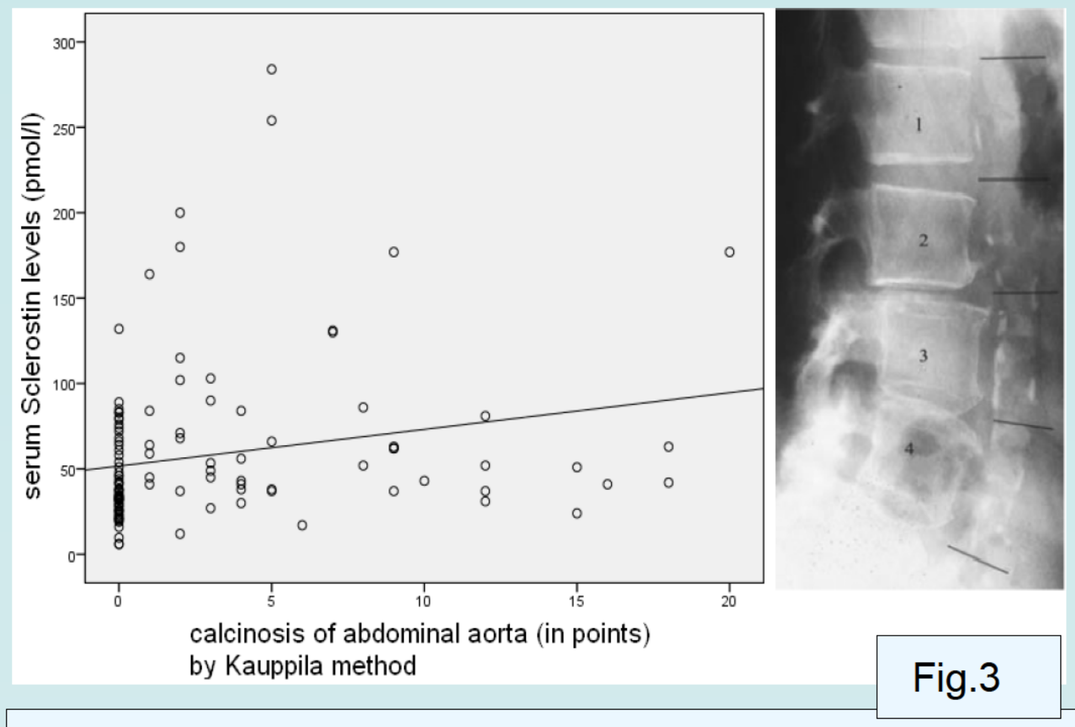

Fig.3

Serum Sclerostin have been also associated with a concentric myocardium remodeling [r=0,445; p<0,01] and left ventricular diastolic dysfunction [r=0,449; p<0,05]. Fig.4

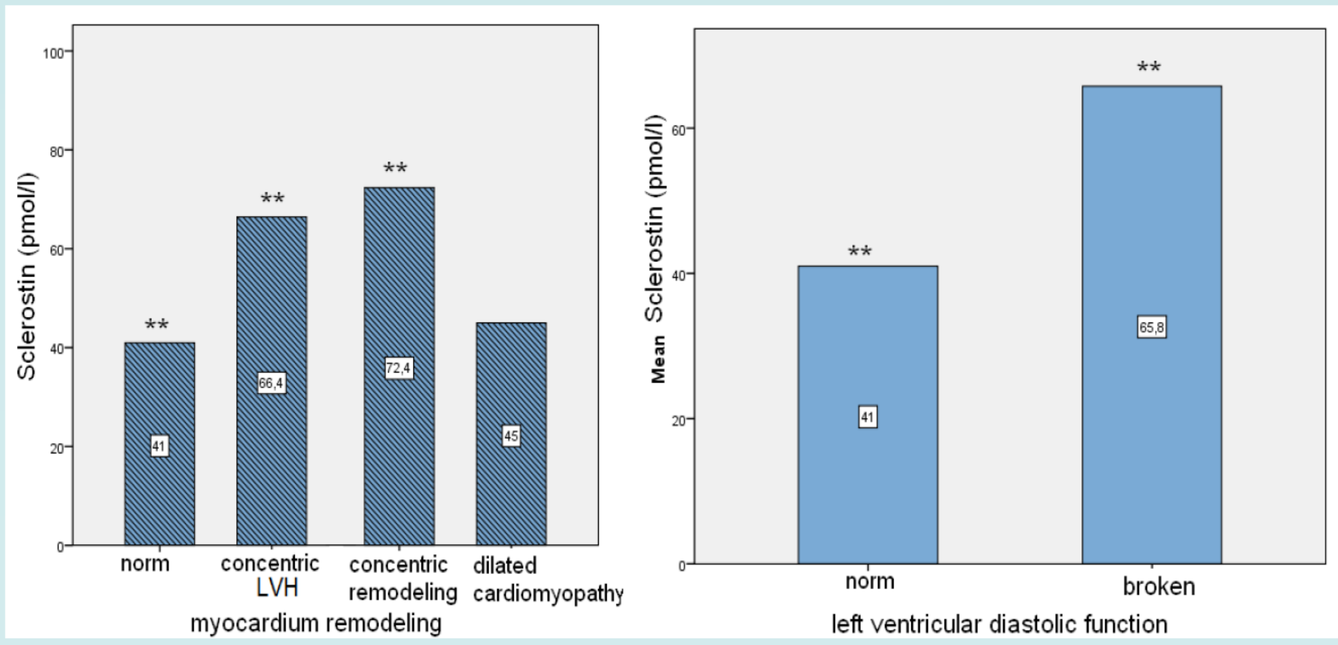

Fig.4

According to the multiple regression analysis, degree of the heart calcification was higher in CKD patients with higher serum Sclerostin, phosphate and central systolic BP.

CONCLUSION: *Besides the important role of Sclerostin in mineral metabolism in CKD its pleiotropic effects are becoming no less important. Based on the obtained results, serum Sclerostin should be also considered as early marker of cardiovascular risk in CKD patients.*

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