3.6: OSTEOPROTEGERIN IS ASSOCIATED INDEPENDENTLY WITH AORTIC STIFFNESS IN PATIENTS WITH ATHEROSCLEROSIS AND IN HEALTHY SUBJECTS

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plus secondary endpoints occurred in 6 patients (24%) in the celiprolol group and in 17 patient (61%) in the control group (hazard ratio, 0.31; 95% CI, 0.14 to 0.71; P = 0.0097).

Conclusions: Celiprolol effectively reduced both vascular complications and acute coronary events.

Methods and Results: A total of 53 patients with RA, AS or PsA and clinical indication for anti-TNF-α therapy were included. 36 patients started with anti-TNF-α therapy and were compared with a non-treatment group of 17 patients. Aortic pulse wave velocity (aPWV), augmentation index (Ax) (Sphygmocor), cIMT (ArtLab) and Calprotectin were measured at baseline and after one year. aPWV (mean ± SD) was reduced in the treatment group, but not in the control group (-0.51 ± 0.80 m/s versus 0.11 ± 0.48 m/s, respectively; P = 0.001). Ax and cIMT did not change in any of the groups. In the treatment group, change in aPWV correlated with change in Calprotectin (r = 0.36, P = 0.04).

Conclusion: These findings indicate that long term anti-TNF-α therapy improves aortic stiffness in patients with inflammatory arthropathies, and that the improvement is correlated with reduction in the proinflammatory protein Calprotectin.

3.6 OSTEOPROTEGERIN IS ASSOCIATED INDEPENDENTLY WITH AORTIC STIFFNESS IN PATIENTS WITH ACUTE LESIONS AND IN HEALTHY SUBJECTS

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Background: Arterial stiffening is an independent predictor for cardiovascular mortality. Preliminary studies have shown that arterial calcification may have impact on increased vascular stiffness. However, little is known about the role of calcification inhibitor osteoprotegerin (OPG) as an independent predictor of arterial stiffness in patients with peripheral arterial disease (PAD) and in healthy subjects.

Aim: To evaluate the association between OPG level and arterial stiffness parameters in patients with PAD and in healthy subjects.

Materials and methods: We studied 59 males with PAD (age 63 ± 7 years) and 44 healthy subjects (age 54 ± 7 years). Serum OPG level was measured using ELISA kit. Arterial stiffness parameters, such as aortic pulse wave velocity aPWV and augmentation index, were measured by applanation tonometry using the Sphygmocor device.

Results: OPG level (5.40 ± 1.77 vs 4.19 ± 1.14 pmol/L; p < 0.001) and aPWV (9.86 ± 2.31 vs 7.69 ± 1.66 m/s; p < 0.001) were different for the patients and for the controls. There was linear relationship between OPG level and aPWV in patients with PAD (R = 0.51, p = 0.0001) as well as in healthy individuals (R = 0.47; p = 0.002). In multiple regression models, OPG level was independently associated with aPWV along with age and mean arterial pressure in the patient group (R² = 0.34; p = 0.034) as well as in the controls (R² = 0.49; p = 0.037).

Conclusion: The independent association between OPG level and aPWV in patients with PAD and in controls suggests that calcification inhibitor OPG may be important in the process of aortic stiffening in atherosclerosis and in healthy subjects.