P7.11: PREDICTIVE VALUE OF ENDOTHEL DYSFUNCTION ASSESSED BY FLOW MEDIATED VASODILATATION AND ARTERIAL STIFFNESS PARAMETERS IN THROMBOTIC EVENTS OF PRIMARY ANTIPHOSPHOLIPID SYNDROME

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P7.10
MULTI-SITE ULTRASOUND ASSESSMENT OF ARTERIAL REMODELING AND DISTENSIBILITY IN MARATHON RUNNERS
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Objective: to investigate features of arterial remodeling and distensibility in marathon runners by a multi-site, non-invasive approach.

Methods: 46 marathon runners (M) and 15 age-sex- and BMI matched sedentary (S) individuals were recruited (men 70 vs 67%, p = 0.83; age 44±7 vs 43±6 years, p = 0.62; BMI 23±2 vs 23±3, p = 0.65; brachial BP 127±12/76±9 vs 123±10/74±8 mmHg, p = 0.29 and 0.30; HR 53±14 vs 64±8 bpm, p = 0.004). The following measurements were performed: brachial blood pressure (BP – oscillometric method), carotid and femoral BP, aortic BP (applanation tonometry+transfer function), carotid-femoral pulse wave velocity (PWV), ultrasound assessment of abdominal aorta, common carotid, common femoral and brachial artery. For each arterial site mean diameter (MD) and local distensibility coefficient (DC) were assessed.

Results: M in comparison with S had increased Aortic MD (15.8±1.2 vs 13.1±1.1 mm, p = 0.0001) and reduced MD (30.3±15.2 vs 38.5±10.5, p = 0.05), with similar carotid and brachial MD (7.16±0.59 vs 7.04±0.77 mm and 4.05±0.56 vs 3.99±0.82mm, p = ns) and DC (38.0±11.3 vs 40.2±11.5 and 9.9±6.6 vs 8.9±5.6, p = ns). Furthermore, femoral MD was increased (9.8±1.0 vs 8.8±1.4, p = 0.01), whereas DC was similar (29.0±11.5 vs 33.1±16.1, p = ns). Carotid, femoral and aortic BP, carotid and femoral IMT, as well as carotid-femoral PWV (6.6±1.5 vs 6.7±1.9 m/s, p = 0.86), were similar in M and S.

Conclusions: Marathon runners present remodeling of aorta and femoral arteries and reduced abdominal aortic distensibility. Multi-site assessment of local arterial distensibility might be more useful than assessment of regional arterial stiffness to identify specific patterns of vascular structure and function in athletes.

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PREDICTIVE VALUE OF ENDOTHEL DYSFUNCTION ASSESSED BY FLOW MEDIATED VASODILATION AND ARTERIAL STIFFNESS PARAMETERS IN THROMBOTIC EVENTS OF PRIMARY ANTIPHOSPHOLIPID SYNDROME
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Primary antiphospholipid syndrome (APS) is characterized by recurrent arterial or venous thrombosis and/or fetal loss in the presence of anti- phospholipid antibodies. The authors in a longitudinal (2005-2015) follow-up study examined how the angiological and metabolic parameters have changed during the follow up. The aim was to define if there is any association with the latter thrombotic events and the changing of examined parameters and if the parameters have any predictive values in APS specific events.

In 2005 49 primary APS patient were enrolled. In 2015 26 patient participated in the follow up measurements, but we obtained clinical history from all of the patients. Endothel function was descibed by flow mediated vasodilatation (FMD), stiffness parameters (augmentation index, pulse wave velocity), carots intima-media thickness (cIMT) were examined, and metabolic parameters were also determined.

During the follow-up 28 patient suffered thromboembolic events, in 21 patients did not have any kind of thromboembolic events. In the trombotic group the onset cIMT was significantly higher (0.73 mm vs 0.63; p = 0.014) than in patients without thrombotic events. As for the other onset angiological parameters there we no significant difference between the thrombotic and non-thrombotic group. In the thrombotic group significantly more patient smoked (p = 0.015). In the non-thrombotic group the endothel function significantly improved (p = 0.019) while in the trombotic group the cIMT significantly increased (p = 0.05) during the 10 year follow-up.

The improvement of endothel function with pharmacological and non –pharmacological measures has positive clinical benefit. The abnormal stiffness parameters do not correlate with the clinical outcome.