P7.05: ASSOCIATION BETWEEN RENAL FUNCTION AND ARTERIAL STIFFNESS IN NEVER-TREATED HYPERTENSIVES


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Conclusions: Marathon runners have increased aortic stiffness, as well as central and peripheral haemodynamic parameters. These findings could contribute to precisely assess cardiovascular risk in marathon runners focusing on the proper training volumes, frequency and duration.

P7.04
PROGRESSIVE ARTERIAL STIFFENING IN RENAL TRANSPLANT RECIPIENTS + RESULTS OF 28-MONTH FOLLOW-UP

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Recent follow-up studies showed no change or even short-term improvement of arterial stiffness after kidney transplantation. Data from general population and end-stage renal disease patients suggest, that PWV increases with age of 0.07-0.08 m/s for each year of life. It was shown recently that reduced glomerular filtration rate (GFR) is associated with increased arterial stiffness in RTR. We investigated the change of PWV during follow-up and its relationship with graft function. Carotid-femoral PWV was measured as (PWV2-PWV1)/PWV1. Clinical and laboratory data were analysed to identify factors associated with ΔPWV. Results are shown as mean ± SD.

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<tr>
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<th>Baseline</th>
<th>Follow-up P</th>
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<tr>
<td>PWV (m/s)</td>
<td>9.1 ± 1.7</td>
<td>9.8 ± 2.0</td>
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<tr>
<td>Body mass (kg)</td>
<td>73.7 ± 13.9</td>
<td>75.4 ± 13.6</td>
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<tr>
<td>SBP (mmHg)</td>
<td>132 ± 17</td>
<td>137 ± 19</td>
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<tr>
<td>MAP (mmHg)</td>
<td>83 ± 11</td>
<td>84 ± 10</td>
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<tr>
<td>PP (mmHg)</td>
<td>99 ± 12</td>
<td>102 ± 12</td>
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<tr>
<td>eGFR (ml/min/1.73m2)</td>
<td>55 ± 16</td>
<td>56 ± 16</td>
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</table>

Serum Ca, P, Ca x P product, hsCRP did not change during follow-up. Significant positive correlation was found between ΔPWV and serum phosphorus (r = 0.27; p < 0.05) and Ca x P product (r = 0.25; p < 0.05) but not with body mass, BMI, SBP, DBP, MAP, PP, Ca, eGFR, hsCRP.

Arterial stiffness increased in renal transplant recipients despite stable graft function. Phosphorus metabolism disturbances might be involved in arterial stiffening in RTR.

P7.05
ASSOCIATION BETWEEN RENAL FUNCTION AND ARTERIAL STIFFNESS IN NEVER-TREATED HYPERTENSIVES

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Introduction: Hypertension and renal dysfunction are associated with increased arterial stiffness. Arterial stiffness is a marker of cardiovascular disease and predictor of cardiovascular risk. We assessed the relationship between renal function and arterial stiffness in never-treated hypertensives.

Methods: We enrolled 388 consecutive essential hypertensives (mean age 52 ± 12 years), who had no established cardiovascular disease. Arterial elastic properties were evaluated with carotid-femoral pulse wave velocity (PWV). Renal function was evaluated with blood creatinine and estimated glomerular filtration rate, measured by the simplified Modification of Diet in Renal Disease (MDRD) formula and the Cockcroft-Gault formula.

Results: In multivariable regression analysis PWV significantly correlated with blood creatinine levels (p < 0.05, adjusted R² of model = 0.224) and estimated GFR by the Cockcroft-Gault formula (p = 0.05, adjusted R² of model = 0.222), as well as by the MDRD formula (p < 0.05, adjusted R² of model = 0.223). The abovementioned correlations were independent of age, sex, body-mass index and mean blood pressure.

Conclusion: This is the first study in never-treated hypertensives that shows a weak but significant relationship between the degree of GFR loss and arterial stiffness, even in individuals with GFR values within the normal renal function range.