P31: DO TREATMENT INDUCED CHANGES IN ARTERIAL STIFFNESS AFFECT LEFT VENTRICULAR STRUCTURE AND FUNCTION? – A META-ANALYSIS

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inhibitors lead to hypertension in 30-80% patients. Reduced nitric oxide synthase activity and increased vascular resistance have been proposed as potential mechanisms. We aimed to assess these mechanisms in oncology patients receiving VEGF inhibitor, pazopanib (NCT01392352).

Methods: 27 normotensive patients received pazopanib 800mg od. Endothelial function was assessed using forearm plethysmography with intra-arterial infusion of Acetylcholine (ACH), Sodium Nitroprusside (SNP) and L-N-nonenynaminothel-arginine (L-NMMA). Also, Blood Pressure (BP), Pulse Wave Velocity (PWV), Cardiac Output (CO), and Peripheral Vascular Resistance (PVR) and methyl-arginine (L-NMMA). Also, Blood Pressure (BP), Pulse Wave Velocity (PWV), Cardiac Output (CO), and Peripheral Vascular Resistance (PVR) and methyl-arginine (L-NMMA).

Results: Following 12 weeks of treatment, systolic BP rose by 12 (95% CI:4–19) mmHg; P = 0.003, diastolic by 10 (95% CI:5–15) mmHg; P < 0.001, PWV by 1.3 (95% CI:0.3–2.2) m/s; P = 0.01, PVR by 11.1 (95% CI:7.7–14.6) mmHg/L/min; P < 0.001. Capillary density in the sclera reduced by 12 ± 18%; P = 0.02. Forearm blood flow response to ACH improved (P < 0.001), whereas SNP and L-NMMA responses were unchanged. A post-hoc colorometric assay revealed in whole blood from healthy volunteers that pazopanib inhibited acetylcholinesterase activity by 35%.

Conclusion: Unexpectedly, pazopanib led to an increase in ACH response, but this is most likely due to the inhibition of acetylcholinesterase activity by pazopanib. Interestingly, we found that PVR was increased and capillary density reduced; however, the proportion in reductions of the other two variables. On the other hand, we found a significant positive correlation (r = 0.58, p = 0.007) between arterial stiffness and LVMI, with a significant negative correlation (r = 0.517). After 12 weeks of pazopanib treatment, significant increases in arterial stiffness were observed, with a mean increase of 2.2 ± 1.9 mmHg/L/min (P < 0.001). Capillary density in the sclera reduced by 12 ± 18%; P = 0.02. Forearm blood flow response to ACH improved (P < 0.001), whereas SNP and L-NMMA responses were unchanged. A post-hoc colorometric assay revealed in whole blood from healthy volunteers that pazopanib inhibited acetylcholinesterase activity by 35%.

P30
A 12-WEEK EXERCISE PROGRAM REDUCES ENDOTHELIAL DAMAGE IN RESISTANT HYPERTENSION

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Background: Resistant Hypertension (RH) is associated with an increased risk of cardiovascular events and poor prognosis. Exercise training studies in RH patients have shown promising outcomes, nonetheless, none determine the impact of exercise on endothelial damage and repair. Circulating endothelial cells (CECs) are a reliable indicator of vascular damage and dysfunction. Recent studies in hypertension suggest that increased levels of endothelial progenitor cells (EPCs), a marker of endothelial repair, are associated with central arterial stiffness (assessed by means of PWV), systolic- and diastolic blood pressure (SBP, DBP), and LVMI index (LVMI), respectively.

Methods: Using PubMed, EMBASE, Cochrane and Web of Science, we identified 23 studies, containing 2573 patients. Studies reported changes in arterial stiffness (assessed by means of PWV), systolic- and diastolic blood pressure (SBP, DBP), and LVMI index (LVMI), respectively.

Results: Statistically significant reductions in SBP, PWV and LVMI were reported in 16, 14, and 20 studies, respectively. Pooled analysis of studies showed that the proportion in SBP reduction did not correlate significantly to the proportion in reductions of the other two variables. On the other hand, we found a significant positive correlation (r = 0.58, p = 0.007) between arterial stiffness and LVMI, with a significant negative correlation (r = 0.517). After 12 weeks of pazopanib treatment, significant increases in arterial stiffness were observed, with a mean increase of 2.2 ± 1.9 mmHg/L/min (P < 0.001). Capillary density in the sclera reduced by 12 ± 18%; P = 0.02. Forearm blood flow response to ACH improved (P < 0.001), whereas SNP and L-NMMA responses were unchanged. A post-hoc colorometric assay revealed in whole blood from healthy volunteers that pazopanib inhibited acetylcholinesterase activity by 35%.

Conclusion: Unexpectedly, pazopanib led to an increase in ACH response, but this is most likely due to the inhibition of acetylcholinesterase activity by pazopanib. Interestingly, we found that PVR was increased and capillary density reduced; however, the proportion in reductions of the other two variables. On the other hand, we found a significant positive correlation (r = 0.58, p = 0.007) between arterial stiffness and LVMI, with a significant negative correlation (r = 0.517).