Results: Hypertensive subjects compared to normotensive controls, have higher values of TC, LDL and TG (62.11% versus 22.5%, respectively, P=0.02), and lower HDL values (48.3% versus 8.5% respectively, P=0.04). Hypocholesterolemia was observed in 58% patients, hypertriglyceridemia in 11.5%, and mixed hyperlipidemia in 30.5% patients. TC values were significantly higher in women with unbalanced hypertension (P=0.001).

Conclusion: The prevalence of dyslipidemia in our study population increases with hypertension. Screening of these risk factors, promotion of healthy lifestyle, and the institution of therapy is desirable to reduce their multiplicative effects.

0368
Aortic impedance in older subjects: MR and applanation tonometry study by wave intensity analysis

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Introduction: Central pressure waveform can be decomposed into pressure transmission and reflection waves. Zc, characteristic impedance of aorta was measured by MRI, respectively (r=0.41, p=0.03) for RM and (r=0.42, p=0.003). Association between RM and IR were positively significant with aorta length (r2 = 0.16, p=0.04) after adjustment to age and height. RM associated positively with thoracic aorta length (r2 = 0.15, p=0.05) after adjustment to age and height, IR also associated positively with thoracic aorta length (r2 = 0.16, p=0.04) after adjustment to age and height.

Conclusions: This automatic signal treatment of aortic flow and pulse pressure waveform is a good method for assessment of wave reflections in older subjects allowing to obtain the aortic characteristic impedance in the time domain and reflection index (IR) and reflection magnitude (MR).

0347
Diuretic, antihypertensive and antioxidant effect of olea europaea leaves extract, in rats

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Introduction: Although, there are known the beneficial effects of the fruits and the olive oil, lately a special attention was given to extracts obtained from olive leaves. The studies have reported that oleuropein (the main active component of olive leaves) has antioxidant, vasodilator, anti-inflammatory properties.

Methods: 30 male Sprague-Dawley rats were randomized in 3 groups (n=10) that received orally for seven days: 1. distillate water (control group), 2. Furosemide and OE leaves extract induced a significant (p<0.05) increase in rats diuresis and saluresis as compared to control group. For OE extract, the same effect intensity was recorded after the first and the last doses. Also after seven days of treatment, the rats’ systolic blood pressure was significantly reduced in OE group. In vitro conditions, in the presence of OE extract, extracellular potassium efflux, the signs of erythrocyte membranes early degradation by oxidative stress, was decreased significantly and dose-dependent manner.

Results: Furosemide and OE leaves extract induced a significant (p<0.05) increase in rats diuresis and saluresis as compared to control group. For OE extract, the same effect intensity was recorded after the first and the last doses. Also after seven days of treatment, the rats’ systolic blood pressure was significantly reduced in OE group. In vitro conditions, in the presence of OE extract, extracellular potassium efflux, the signs of erythrocyte membranes early degradation by oxidative stress, was decreased significantly and dose-dependent manner.

Conclusions: In our experimental conditions it appears that, OE leaves extract presented diuretic and antihypertensive effects. Also erythrocyte membranes are very significantly protected from mechanical stress. However, the beneficial effects of the fruits and the olive oil, lately a special attention was given to extracts obtained from olive leaves.

0068
Protective role of nucleotidases against the development of hypertension

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Hypertension is characterized by a hypertrophic remodeling of big arteries, increased tone in smallest, endothelial dysfunction and accompanied by oxidative stress, inflammation and fibrosis. Extracellular nucleotides, which are released under cellular stress, promote deleterious pathological responses (vasoconstriction, inflammation, vascular permeability) through P2 receptors activation although the contribution of purinergic signaling to cardiovascular pathologies remains to be established. Hydrolysis of these molecules is provided by nucleoside triphosphatase and diphosphohydrolases (NTPDases), especially NTPDase1 (CD39), highly expressed in the arterial wall. Together with ecto-5’nucleotidase (CD73), these enzymes generate vasoprotective adenosine (ADO anti-inflammatory, vasodilatory). Using Apyrase (APY, soluble potato nucleotidase) treatment and CD39 deficient (Entpd1/-/-) mice, we evaluated the potential benefit of nucleotides hydrolysis in experimental hypertension. After 12 days of AngII (1mg/kg/day) infusion, with or without APY (45U sc, 15U ip every 3 days), the increase in systolic blood pressure (SBP) and the hypertrophic aortic remodeling were significantly reduced in AngII/APY-treated mice compared to AngII-treated mice. Reversely, in Entpd1/-/- mice treated with intermediate dose of AngII (0.5mg/kg/day) the increase in SBP was greater than in Entpd1+/+ mice. This was associated with exacerbated hypertrophic aortic remodeling. Interestingly, RT-qPCR revealed a decreased CD39 expression level in resistance arteries of AngII-treated mice and SHR rats, suggesting a role for the enzyme in hypertension. The role of CD39 as a regulator of arterial tone through the control of P2Y6 receptor activation is likely, although its contribution in the prevention of vascular inflammation remains to be investigated. Consequently, nucleotidases protect against high blood pressure and represent new therapeutic area in the treatment of hypertension.