Pediatric Cardiology

PP-242
Long Term Outcome of Arterial Switch for Transposition of Great Arteries in Tunisian Children. First Experience in an Emergent Country

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Introduction: After its introduction by Latune and colleagues in 1975, the arterial switch operation (ASO) has become the surgical technique of choice for correction of transposition of the great arteries (TGA) with or without ventricular septal defect (VSD). Short- and mid-term results are promising, but data on long-term outcome are limited and major complications may occur.

Objectives: Our work is intended to assess the long term results of ASO in Tunisian children with TGA and to identify potential factors affecting these results.

Methods: We studied 44 patients with ASO (mean age: 11.5 years, 73%-male, 50% TGA with VSD) followed at our department. The inclusion criterion was at least 5 years of follow-up. Complete clinical examination, standard and 24-hour Holter electrocardiogram, M-mode, 2D-and color Doppler echocardiography and coronary investigations were performed.

Results: Mean follow-up was 106 months (8.83 years). One patient died (2.27%). Impaired left ventricular function was observed in 5 cases (11.36%). Right ventricular outflow tract obstruction was observed in 6 patients (13.63%) requiring reintervention in 2 cases. Pulmonary regurgitation was frequent (40.90%). Aortic regurgitation was observed in 20 patients (45.45%) but appeared not to be progressive. Coronary lesions were found in 4 patients (9.09%) requiring a coronary artery bypass graft (CABG) in 1 case. Intramural coronary artery course was the risk factor of late coronary artery lesions (p=0.0013). Freedom from late reintervention was 84% at 15 years after ASO. Eight late reinterventions were performed in 4 patients (9.09%) with a mean age of 10.43 years.

Conclusion: The TGA, including complex types, can be corrected with good long-term outcomes by ASO. The association to a VSD was not considered to be a predictor of long-term complications except of aortic regurgitation. Right ventricular outflow tract dysfunction was the main reason for late reinterventions. Potential risk of myocardial ischemia requires regular appropriate follow up.

Lipid

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Relation of Serum Testosterone Levels to High Density Lipoprotein Cholesterol and Triglyceride in Men

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Background: Low HDL cholesterol (HDL-C) levels are now recognized as an independent cardiovascular risk factor and comprise part of the metabolic syndrome. Low testosterone (T) levels are a common finding in men with coronary artery disease. Methods: The relationship between endogenous plasma testosterone and high density lipoprotein cholesterol (HDL-C) was assessed among 933 men (27-74 years old) originally recruited for an cross-sectional study of endogenous testosterone and coronary artery disease (CAD). Patients underwent coronaryography and at the same time, serial testosterone was measured, triglycerides, total-and HDL-cholesterol.

Results: Patients (coronary narrowing >50% n = 689) were compared to those without significant stenoses (n = 244). High-density lipoprotein cholesterol (HDL-C) and triglyceride were both significantly associated with the presence of CAD (p<0.05). Testosterone (mean 5.538±2.129/mmól/l range 0.106 – 14.108 mmól/l) correlated directly with HDL-cholesterol (r=0.358, < P=0.0050) and inversely with triglycerides (r=-0.089, < P=0.0040), but not with LDL-cholesterol (r=0.140, p=0.1990) total cholesterol (r=-0.036, p=0.820).

Conclusions: These findings suggest the positive association between levels of testosterone and HDL cholesterol, The negative association between levels of triglyceride and testosterone.

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Low HDL Cholesterol Situations is Characterised by Elevated Oxidative Stress
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Background: Low circulating levels of high density lipoprotein cholesterol (HDL-C) is the most common form of dyslipidemia in coronary heart disease (CHD). In previous studies, it has been shown that low circulating levels of HDL-C is a strong, independent risk factor for premature atherosclerosis and CHD. Plasma HDL-C particles exhibit potent anti-atherogenic and anti-inflammatory activities in addition to antioxidant activity. Thus, we aimed to investigate biochemical parameters associated with oxidative stress in low HDL-C.

Method: This study included 33 consecutive patients with low HDL-C (<35 mg/dl) (18 male, age 55±13 years) and 33 age and sex-matched control subjects with normal HDL-C (35-55 mg/dl) (17 male, mean age 58±13 years). Laboratory tests were similar in both groups. ALT and GGT levels were comparable in demographic and clinic characteristics. Except for ALT levels routine laboratory tests were similar in both groups. ALT levels was higher in low HDL-C patients than in subjects with normal HDL-C (29±19 vs 18±5.3 mg/dl, p<0.01). Triglyceride (TG) levels were higher in low HDL-C group, total cholesterol (TC) and low density lipoprotein (LDL) levels were significantly higher in control group. HDL-C levels was lower in patients group than in control group (30±1.3 vs 48±7.5 mg/dl, p<0.01). Uric asit (6.3±1.5 vs 4.5±1.3, respectively p<0.01) and GGT levels [35 (10-122) vs 23 (11-71.6), p=0.02] were significantly higher in low HDL-C than in control group [2.95 (0.01-7.26) vs 1.17 (0.80-1.80), p<0.01].

Conclusions: Our findings show that oxidative stress levels increase in patients with low HDL-C. From this aspect, treatments that increase HDL levels or improve the antioxidant status in low HDL-C patients might be reasonable to slow down the process of oxidative stress. However, this result needs to be validated in large-sized studies.

Purpose: Catestatin (CST), a novel peptide derived from Chromogranin A, has diverse cardiovascular actions in addition to diminished sympathetical flow. We intended to investigate metabolic and vascular associations of CST.

Methods: We evaluated plasma catestatin, lipid parameters, left ventricular mass, carotid intima-media thickness (CIMT) and flow-mediated dilatation (FMD) of brachial artery in a group of 109 consecutive untreated hypertensive patients.

Results: Catestatin levels were significantly higher in females (p<0.010), negatively correlated with age (r=0.426, p<0.001), high density lipoprotein (HDL) (r=0.35, p<0.010), but not with LDL-cholesterol (r=−0.034) negatively correlated with plasma catestatin. We could not detect an association between vascular parameters and catestatin. We also documented increased CST concentrations in previously untreated hypertensive patients compared to healthy controls (2.27 vs 1.99 mg/ml, p=0.004). Multiple linear regression analysis revealed age (Beta: 0.201, p=0.044) and HDL cholesterol (Beta: 0.390, p<0.001) as independent correlates of plasma catestatin concentration.

Conclusion: We documented that catestatin is correlated with high density lipoprotein concentrations among several metabolic, vascular and biochemical parameters, in previously untreated hypertensive patients. The physiology and clinical significance of this association remains unknown and requires further studies to be identified.