Maternal hypercholesterolemia during pregnancy is associated with severity of myocardial infarction in young adults

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Purpose:
Elevated Maternal Cholesterol during Pregnancy (MCP) enhances atherogenesis in childhood, but its impact on acute myocardial infarction (AMI) in adults is unknown.

Methods:
89 AMI patients meeting narrow criteria (born after 1945, typical chest pain, transmural infarction Q-waves, elevated creatinine kinase, no cerebrovascular or terminal disease) were identified among patients admitted to coronary care unit in Naples, Italy. Patients were classified by MI severity (severe=involving atherosclerotic or terminal disease) were identified among patients admitted to coronary care unit in Naples, Italy. Patients were classified by MI severity (severe=involving atherosclerotic or terminal disease). Upon admission, serum samples were collected. MCP was determined. In women significantly higher DSS (p=0.022) and TCS (p=0.004) were measured. Lp(a) levels were subsequently related to total coronary calcium score (TCS) and coronary plaque burden. Coronary plaque burden is described as diseased coronary segment score per frame (DSS), DSS and TCS were analyzed in a group with low Lp(a) >0.300 g/L and high Lp(a) >1.000 g/L adjusted for sex, using the Mann-Whitney U test. In men no difference in DSS and TCS was found between high and low Lp(a) groups. We show that serum levels of Lp(a) is associated with disease severity in women and not in men.

Conclusions:
MCP is associated with adult BMI, atherosclerosis-related risk and severity of AMI.

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Albuminuria significantly predicts cardiovascular events in patients with type 2 diabetes independently from the baseline coronary artery state

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Purpose:
Albuminuria is an important indicator of cardiovascular risk. We have recently shown that it is also associated with angiographically determined coronary artery disease (CAD). Whether albuminuria predicts cardiovascular events independently of the baseline coronary artery state in patients with type 2 diabetes (T2DM) has not been investigated yet.

Methods:
We measured urinary albumin and creatinine concentrations in 211 consecutive patients with T2DM undergoing coronary angiography for the evaluation of suspected or established stable CAD. Albuminuria was defined as a urinary albumin to creatinine ratio (ACR) of ≥30 mg/g or greater. Prospectively, we recorded vascular events over 3.2±1.4 years.

Results:
During follow up, 24.9% of our patients suffered cardiovascular events. The cardiovascular event rate was significantly higher in patients with albuminuria (n=68) than in those with normal albuminuria (36.3 vs. 17.5%; p=0.003). Cox regression analysis adjusting for age, gender, BMI, smoking, systolic and diastolic blood pressure, heart rate, creatinine, random blood glucose, cholesterol, triglyceride and HDL-cholesterol showed a significant independent association of albuminuria with cardiovascular events. The cardiovascular event rate was significantly higher in patients with albuminuria (n=68) than in those with normal albuminuria (36.3 vs. 17.5%; p=0.003).