

Polymorphism of apolipoprotein E in children with metabolic diseases of the biliary tract

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Cholelithiasis in children is associated with a violation of cholesterol metabolism and insulin resistance.

Aim: to study the correlation between Apo-E subclasses and lipid spectrum parameters in children with cholelithiasis.

Methods: The study included patients with cholelithiasis: stage I (n = 23) and stage II (n = 21). The lipid profile was assessed in patients with different Apo-E phenotypes. Results: most patients had E3 / E3 (n = 32) and E3 allele (n = 36), rarely E3 / E4 (n = 8) and E4 / E4 (n = 4) and allele E4 (n = 8). LDL levels were significantly different in patients with phenotypes E3 / E4 and E4 / E4, $p < 0.01$. Higher LDL values were typical for children with the E4 / E4 phenotype (3.42 ± 0.34 mmol / L) compared to the E3 / E4 phenotype (2.0 ± 0.25 mmol / L, $p < 0.05$). HDL levels in children of both groups were within the reference values, the lowest values were recorded in patients with the E4 allele. At different stages of cholelithiasis in children, the presence of the E4 / E4 phenotype in combination with dyslipidemia can be considered a significant factor in connection with an increase in the proportion of atherogenic lipids. The data obtained require further in-depth research.

Conclusions. Analysis of the lipid spectrum in children with cholelithiasis and various phenotypes of Apo-E indicates a genetic predisposition to lipid metabolism disorders. The marker of an increased risk of developing cholelithiasis is the E4 / E4 phenotype.

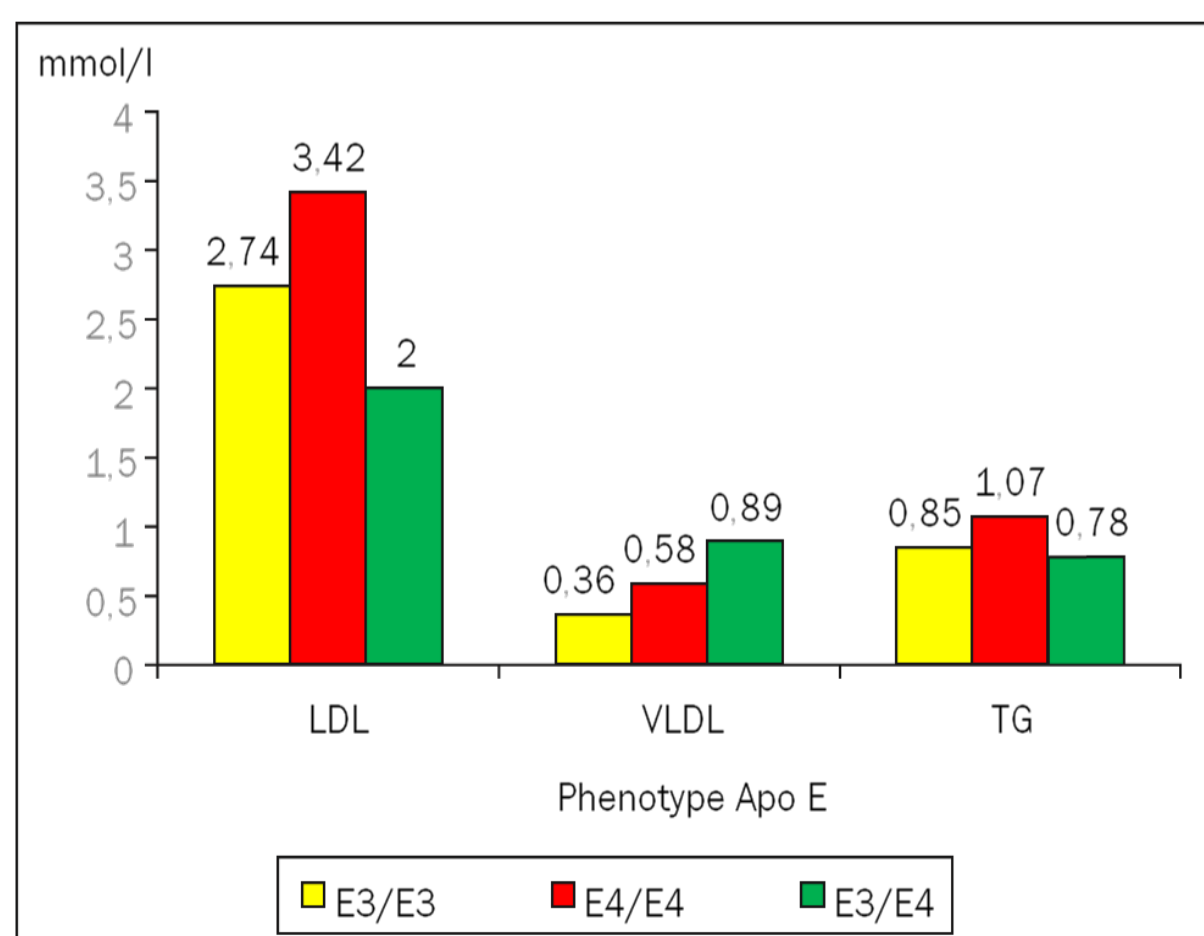


Fig. 1 The level of indicators of atherogenic lipids in children with cholelithiasis with different variants of the phenotype Apo E

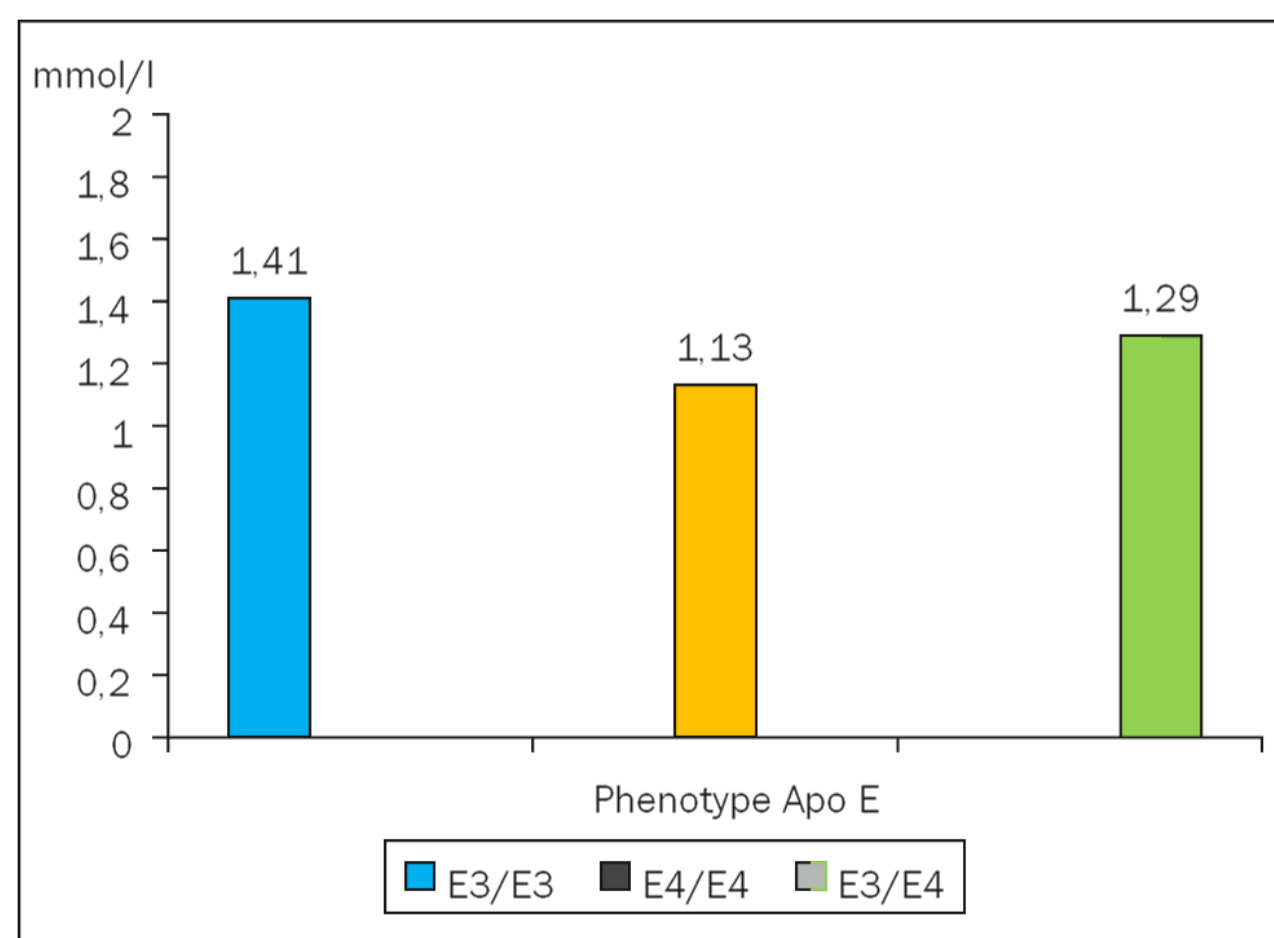


Fig. 2 The level of HDL parameters in children with cholelithiasis with different variants of the Apo E phenotype