Review

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The influence of *SLCO1B1* (OATP1B1) gene polymorphisms on response to statin therapy

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Abstract

Statins (3-hydroxy-3-methylglutaryl coenzyme A reductase inhibitors) are well established in the treatment of hypercholesterolaemia and the prevention of coronary artery disease. Despite this, there is wide inter-individual variability in response to statin therapy, in terms of both lipid-lowering and adverse drug reactions. The major site of statin action is within hepatocytes and recent interest has focussed on genetic variation in hepatic influx and efflux transporters for their potential to explain these differences. In this review we explore current literature regarding the pharmacokinetic and pharmacodynamic influence of the common c.388A>G and c.521T>C single-nucleotide polymorphisms (SNPs) within the solute carrier organic anion transporter 1B1 (*SLCO1B1*) gene, encoding the organic anion transporter polypeptide 1B1 (OATP1B1) influx transporter. We discuss their potential to predict the efficacy of statin therapy and the likelihood that patients will experience adverse effects.

Keywords: cholesterol, myopathy, polymorphism, *SLCO1B1*, statin, transporter

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