Achievement of New European Low-Density Lipoprotein Cholesterol (LDL-C) Goals of Either <70 mg/dL or >50% Reduction: Results from VOYAGER

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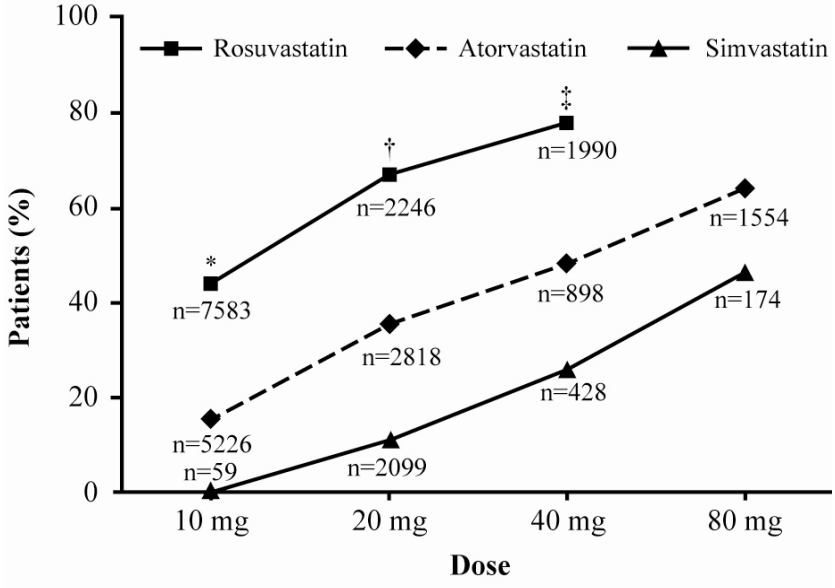
Recent European Atherosclerosis Society/European Society of Cardiology guidelines recommend a goal of either LDL-C <70 mg/dL (~1.8 mmol/L) or >50% reduction in LDL-C for patients at very high cardiovascular risk. We analysed 25,075 patient-exposures from the VOYAGER individual patient meta-analysis database to determine the percentage of high-risk patients treated with rosuvastatin 10-40 mg, atorvastatin 10-80 mg or simvastatin 10-80 mg who achieved the new LDL-C goal. High risk was defined as diabetes, atherosclerosis or atherogenic dyslipidaemia (excluding familial hypercholesterolaemia). Comparisons were made between each rosuvastatin dose and equal or higher doses of atorvastatin and simvastatin using a statistical model that utilised only studies directly comparing the treatments by randomised design. As statin dose increased, a higher percentage of patients achieved LDL-C <70 mg/dL or >50% LDL-C reduction (see Figure). A significantly greater percentage of patients achieved this goal with rosuvastatin than with equal or double doses of atorvastatin or simvastatin.

Figure: Percentage of high-risk patients achieving LDL-C goal



Percentage of patients reaching goal was estimated from a statistical model that removed variability between the 31 studies in VOYAGER. Unadjusted percentages were very similar. Statistically significant differences were: *rosuvastatin 10mg vs atorvastatin 10-20mg and simvastatin 10-20mg; †rosuvastatin 20mg vs atorvastatin 20-40mg and simvastatin 20-80mg; and ‡rosuvastatin 40mg vs atorvastatin 40-80mg and simvastatin 40-80mg (all $p<0.001$). In conclusion, increasing statin dose impacted favourably on achievement of LDL-C <70 mg/dL or >50% reduction in LDL-C levels in the high-risk patient population from the VOYAGER database.

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