OBJECTIVES: To assess the long-term cost-effectiveness of various doses of rosuvastatin (R) versus relevant doses of simvastatin (S) (R20 mg versus S40 mg (primary analysis), R10 versus S20 and R10 versus S40) in a patient population with high risk of cardiovascular events (10-year Framingham CVD risk ≥ 20%). METHODS: A Monte Carlo simulation model was developed based on the JUPITER (Justification for the Use of statins in Primary prevention: an Intervention Trial evaluating Rosuvastatin, NCT00239681) trial findings and includes modeling of cardiovascular events and death over the lifetime of patients. The relative efficacy of S20, S40 and R10 compared with R20 (as observed in JUPITER) was estimated by computing relative 10-year Framingham cardiovascular event risks based on reported differences in Total Cholesterol/High-Density Lipoprotein cholesterol ratio. Epidemiological data specific for the Swedish setting were utilized to model post-event mortality and long-term overall mortality in event-free patients. Incremental effectiveness was primarily measured as quality-adjusted life-years (QALYs) gained. Cost-effectiveness was assessed based upon direct costs. All effects and costs (in 2008/09 Swedish unit prices) were discounted at annual 3%. RESULTS: The model estimated that treating a cohort of 100,000 patients (66 years, 60% males) with R20 mg avoided 26,422 CVD events over lifetime compared with S40 mg. This translated into an estimated gain of 9,151 years in full health (QALYs). The incremental cost per QALY gained was SEK161,712 (16,434). The cost per QALY gained was SEK225,615 (23,237) for R10 versus S20, and SEK232,842 (23,475) for R10 versus S40. Probabilistic sensitivity analyses supported base-case results. CONCLUSIONS: Treatment with rosuvastatin 10 and 20 mg is cost-effective compared with relevant doses of simvastatin in the primary prevention of CVD for patients with high baseline cardiovascular risk (10-year Framingham CVD risk ≥ 20%).

The cost-effectiveness of rosuvastatin versus atorvastatin for the prevention of cardiovascular morbidity and mortality in patients with high baseline risk—A Swedish economic evaluation of the JUPITER trial

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OBJECTIVES: To assess the long-term cost-effectiveness of various doses of rosuvastatin (R) versus relevant doses of simvastatin (S) (R20 mg versus S40 mg (primary analysis), R10 versus S20 and R10 versus S40) in a patient population with high risk of cardiovascular events (10-year Framingham CVD risk ≥ 20%). METHODS: A Monte Carlo simulation model was developed based on the JUPITER (Justification for the Use of statins in Primary Prevention: an Intervention Trial evaluating Rosuvastatin, NCT00239681) trial findings and includes modeling of cardiovascular events and death over the lifetime of patients. The relative efficacy of S20, S40 and R10 compared with R20 (as observed in JUPITER) was estimated by computing relative 10-year Framingham cardiovascular event risks based on reported differences in Total Cholesterol/High-Density Lipoprotein cholesterol ratio. Epidemiological data specific for the Swedish setting were utilized to model post-event mortality and long-term overall mortality in event-free patients. Incremental effectiveness was primarily measured as quality-adjusted life-years (QALYs) gained. Cost-effectiveness was assessed based upon direct costs. All effects and costs (in 2008/09 Swedish unit prices) were discounted at annual 3%. RESULTS: The model estimated that treating a cohort of 100,000 patients (66 years, 60% males) with R20 mg avoided 26,422 CVD events over lifetime compared with S40 mg. This translated into an estimated gain of 9,151 years in full health (QALYs). The incremental cost per QALY gained was SEK161,712 (16,434). The cost per QALY gained was SEK225,615 (23,237) for R10 versus S20, and SEK232,842 (23,475) for R10 versus S40. Probabilistic sensitivity analyses supported base-case results. CONCLUSIONS: Treatment with rosuvastatin 10 and 20 mg is cost-effective compared with relevant doses of simvastatin in the primary prevention of CVD for patients with high baseline cardiovascular risk (10-year Framingham CVD risk ≥ 20%).