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Safety and efficacy of romiplostim in splenectomized and nonsplenectomized patients with primary immune thrombocytopenia

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Abstract

Primary immune thrombocytopenia is an autoimmune disorder characterized by increased platelet destruction and insufficient platelet production without another identified underlying disorder. Splenectomy may alter responsiveness to treatment and/or increase the risk of thrombosis, infection, and pulmonary hypertension. The analysis herein evaluated the safety and efficacy of the thrombopoietin receptor agonist romiplostim in splenectomized and nonsplenectomized adults with primary immune thrombocytopenia. Data were pooled across 13 completed clinical studies in adults with immune thrombocytopenia from 2002-2014. Adverse event rates were adjusted for time of exposure. Results were considered different when 95% confidence intervals were non-overlapping. Safety was analyzed for 1111 patients (395 splenectomized; 716 nonsplenectomized) who received romiplostim or control (placebo or standard of care). At baseline, splenectomized patients had a longer median duration of immune thrombocytopenia and a lower median platelet count, as well as a higher proportion with >3 prior immune thrombocytopenia treatments *versus* nonsplenectomized patients. In each treatment group, splenectomized patients used rescue medications more often than nonsplenectomized patients. Platelet response rates ($\geq 50\times10^9$/L) for romiplostim were 82% (310/376) for splenectomized and 91% (592/648) for nonsplenectomized patients ($P<0.001$ by Cochran-Mantel-Haenszel test). Platelet responses were stable over time in both subgroups. Exposure-adjusted adverse event rates were higher for control *versus* romiplostim for both splenectomized (1857 *versus* 1226 per 100 patient-years) and nonsplenectomized patients (1052 *versus* 852 per 100 patient-years). In conclusion, responses to romiplostim were seen in both splenectomized and nonsplenectomized patients, and romiplostim was not associated with an increase in the risk of adverse events in splenectomized patients. *clinicaltrials.gov Identifier: 00111475(A)(B), 00117143, 00305435, 01143038, 00102323, 00102336, 00415532, 00603642, 00508820, 00907478, 00116688, and 00440037.*