

## Analysis of health-related quality of life in patients receiving AMG 531 using the disease-specific Immune Thrombocytopenic Purpura Patient Assessment Questionnaire

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**Origin of Study** USA

**Type of Study** ONGOING, OPEN-LABEL, EXTENSION STUDY

**Objectives** Use the Immune Thrombocytopenic Purpura Patient Assessment Questionnaire (ITP-PAQ) to analyze health-related quality of life (QOL) in ITP patients receiving the thrombopoiesis-stimulating Fc-peptide fusion protein AMG 531.

**Study Design** AMG 531 is given by subcutaneous injection to patients with ITP no more than once weekly (maximum permitted dose, 10  $\mu\text{g}/\text{kg}$ ); the dose is skipped, decreased, maintained, or increased based on platelet count.

Patients completed the 44-item ITP-PAQ at baseline, during weeks 4 and 12, and every 12 weeks thereafter to study end. The instrument has 10 scales—4 for Physical Health (Symptoms, Fatigue, Bother, Activity), 2 for Emotional Health (Psychological, Fear), 3 for QOL (Overall, Social, Work), and 1 for Women's Reproductive Health. Each was scored 0 (worst) to 100 (best).

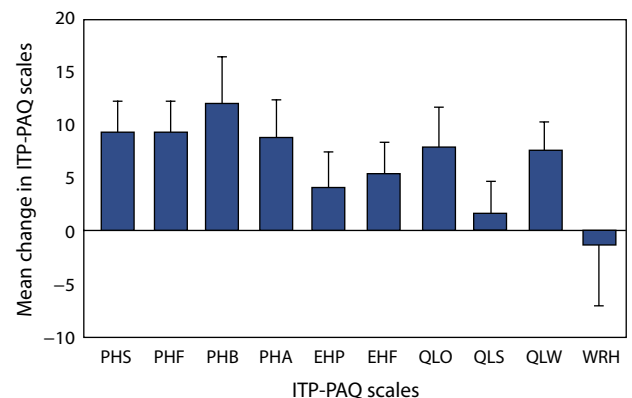
During a planned interim analysis, a signed-rank test assessed the mean difference between week 1 (pretreatment) and week 24 for each ITP-PAQ scale in each patient. A Wilcoxon rank-sum test investigated the equality of the means of the ITP-PAQ scales in durable platelet responders versus nonresponders.

**Patients** Adults with chronic ITP (platelet count  $\leq 50 \times 10^9/\text{L}$ ) were eligible for the study. Patients completed either a phase I/II, open-label, dose-escalation multicenter European trial or a multicenter, dose- and schedule-finding, two-phase trial in the US.

**Observations** Significant improvements in the difference in Physical Health—Symptoms (7.9-unit increase;  $P = 0.004$ ), Physical Health—Fatigue (7.8-unit increase;  $P = 0.002$ ), Physical Health—Bother (9.4-unit increase;  $P = 0.013$ ), Physical Health—Activity (7.4-unit increase;  $P = 0.025$ ), and QOL—Work (7.90-unit increase;  $P = 0.018$ ) were noted (Figure). An analysis of minimal clinically important differences will be done when the sample size is large enough to determine whether statistically significant values are meaningful.

A comparison of health-related QOL in patients with a durable platelet response versus those without such a response showed a trend toward greater improve-

**Mean Difference Between Week 1 and Week 24 in ITP-PAQ Scales**



ITP-PAQ = Immune Thrombocytopenic Purpura Patient Assessment Questionnaire; PHS = Physical Health—Symptoms; PHF = Physical Health—Fatigue; PHB = Physical Health—Bother; PHA = Physical Health—Activity; EHP = Emotional Health—Psychological; EHF = Emotional Health—Fear; QLO = Quality of Life—Overall; QLS = Quality of Life—Social; QLW = Quality of Life—Work; WRH = Women's Reproductive Health

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ment in all 10 scales, with significant differences for Physical Health–Symptoms, –Bother, and –Activity; Emotional Health–Psychological; and QOL–Overall.

**Conclusions**

An analysis of mean differences between week 1 and week 24 showed significant improvement in the ITP-PAQ scales of Physical Health (Symptoms, Fatigue, Bother, Activity) and QOL (Work).

Analysis of health-related QOL in durable platelet responders versus nondurable responders showed significant differences in the means for Physical Health (Symptoms, Bother, Activity), Emotional Health (Psychological), and QOL (Overall).

Patients with a durable platelet response had higher mean health-related QOL values than did nondurable responders.

**Discussion**

Patients with ITP have lower QOL scores on all eight scales of the Short Form-36 than the US general population (McMillan R *et al. Blood* 2002;100:187a. Abstract 697). The ITP-PAQ was developed specifically to measure health-related QOL in patients with ITP. The objective of this study was to assess health-related QOL, using the ITP-PAQ, in patients with ITP receiving AMG 531, a novel thrombopoiesis-stimulating peptibody. This is the first reported use of the ITP-PAQ to measure treatment effects on health-related QOL.

AMG 531 was given over 18 months to 36 patients drawn from an ongoing open-label extension study. The drug was given subcutaneously once weekly (or less); the dose was skipped, decreased, maintained or increased based on platelet count.

Patients completed the 44-item ITP-PAQ at baseline, weeks 4 and 12, and every 12 weeks thereafter to the end of the study. On 9 of the 10 scales of the instruments, differences were observed between scores at week 1 and week 24. Statistically significant differences were found in the domains of Symptoms, Fatigue, Bother, Activity, and QOL–Work.

The effect of treatment on durable platelet responders was particularly striking. Durable platelet responders showed greater improvement in all 10 scales compared with nondurable responders. (Durable response was defined as a doubling in platelet count over baseline and a count that was  $\geq 50 \times 10^9/L$  for 6 weeks or more during weeks 17–24 in the absence of rescue medication.) Patients with a durable platelet response had higher mean values in health-related QOL compared with nondurable responders.

“We looked at the change in scores from baseline to week 24 and found improvements on 9 of 10 scales with AMG 531 treatment. In the areas of symptoms and fatigue, the differences were highly significant, with a good *P* value, especially considering the study only included 36 patients,” said Susan Mathias, MPH, who developed the ITP-PAQ instrument.

“We sliced the deck according to durable versus nondurable platelet responders and found that durable responders had greater improvements in all scales, although nondurable responders still had some improvement as well.”

**Key Points**

- Individualized dosing of AMG 531 provides a unique therapeutic option for managing patients with chronic ITP while improving health-related QOL.

**Reference**

George JN, Busse JB, McMillan R, Guo M, Okano GJ, Nichol JL. Analysis of health-related quality of life in patients receiving AMG 531 using the disease-specific immune thrombocytopenic purpura patient assessment questionnaire. Presented at the 48<sup>th</sup> Annual Meeting of the American Society of Hematology; December 9–12, 2006; Orlando, Florida. Abstract 3292.