P-16 Comparison of treatments for persistent/chronic immune thrombocytopenia: a systematic review and network meta-analysis

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Background: Recent studies have indicated that medical options without splenectomy, such as rituximab (RTX) or thrombopoietin receptor agonists (TPO-RAs), can be effective to treat persistent/chronic primary immune thrombocytopenia (ITP). However, it remains to be determined which of these strategies should be the first choice.

Methods: We performed a systematic review and network meta-analysis to establish a clinically meaningful hierarchy of the efficacy and safety of medical treatments for persistent/chronic ITP in adults. Randomized controlled trials (RCTs) evaluating medical treatments were included. Reviewers independently extracted data and assessed the risk of bias. The main outcome was the overall response (platelet count ≥50×10E9/L); incidence of bleeding episodes, necessity of rescue treatments, and therapy-related adverse events including thrombosis were the secondary endpoints.

Results: A total of 12 randomized controlled trials (N=1306) were included in this study. Our main finding was an improved overall response in TPO-RA arms (both Eltrombopag and Romiplostim) compared with that of placebo (Risk ratio [RR] with 95% confidence interval [CI], 4.75 [2.49−9.07] with $p < 0.01$ and 4.21 [1.87−9.52] with $p < 0.01$, respectively) or RTX (RR with 95%CI, 3.57 [1.05−12.5] with $p = 0.04$, and 3.22 [0.85−12.5] with $p = 0.09$, respectively). There were no significant differences between Eltrombopag and Romiplostim (RR with 95%CI, 0.89 [0.33−2.41] with $p = 0.82$). Moreover, clinically significant bleeding episodes were decreased in TPO-RA arm compared with placebo. Therapy-related adverse events showed similar profiles, and were tolerable in all treatment arms.

Conclusions: TPO-RAs can be first choices for the treatment of persistent/chronic ITP, rather than RTX. Future head-to-head trials including TPO-RAs vs. RTX or Eltrombopag vs. Romiplostim are necessary to validate our study findings and determine the most suitable therapy for persistent/chronic ITP.