Abstract: P1594

Title: BARICITINIB FOR STEROID-RESISTANT/RELAPSE IMMUNE THROMBOCYTOPENIA (BAITP): AN OPEN-LABEL, SINGLE-ARM, PHASE 2 TRIAL

Abstract Type: Poster Presentation

Session Title: Platelet disorders

Background:

Patients with steroid-resistant or relapsed immune thrombocytopenia (ITP) have an increased risk of bleeding and impaired quality of life. Baricitinib, a selective and reversible inhibitor of Janus-associated kinase 1 (JAK1) and JAK2, can modulate multiple cytokine signalling pathways involved in self-reactive innate and adaptive immune responses. Splenic macrophages phagocytose IgG-opsonized platelets and then present the internalized platelet antigens to activate T cells and B cells, maintaining the self-reactive adaptive immune response. Baricitinib inhibits IFN-induced antigen presentation by innate immune cells and subsequent T-cell activation, and has been observed to alleviate the B-cell abnormalities and antibody production. Accordingly, baricitinib might alleviate both innate and adaptive immune disorders in ITP.

Aims:

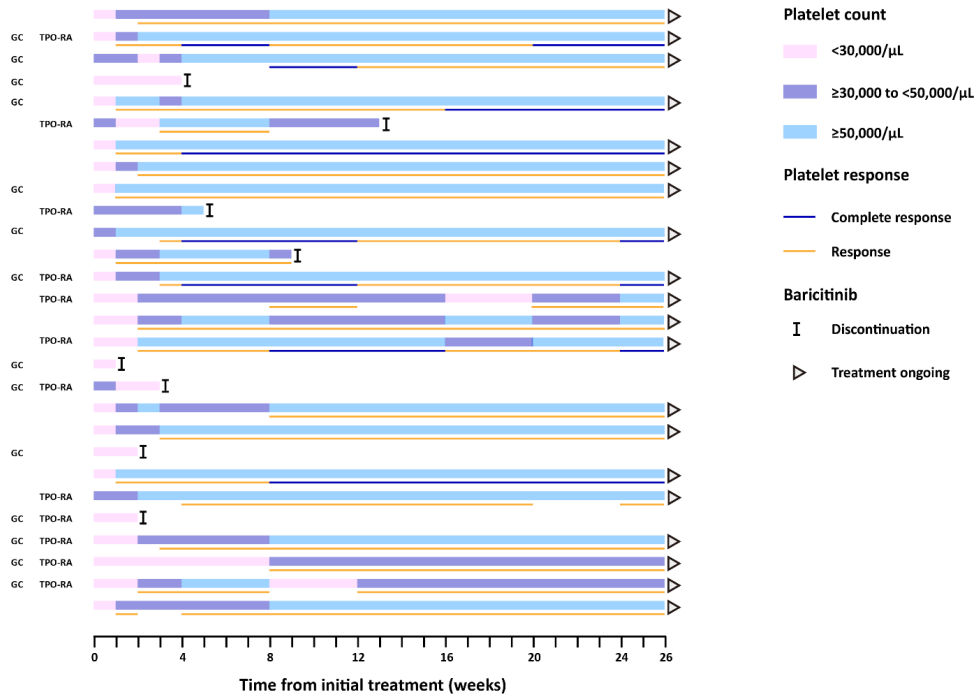
To explore the efficacy and safety of baricitinib as second-line therapy for patients with steroid-resistant or relapsed ITP.

Methods:

This single-arm, open-label, phase 2 trial was conducted at Peking University People's Hospital. Adult patients with steroid-resistant or relapsed ITP who had a platelet count $<30\times10^9$/L, or a platelet count $<50\times10^9$/L with clinically significant bleeding, were eligible for this study. The patients received baricitinib 4 mg daily for 6 months. The primary endpoint was durable response at the 6-month follow-up. Efficacy endpoints were analysed in the modified intention-to-treat population, which included all enrolled patients except for those who withdrew consent or post hoc objectively did not meet the eligibility criteria (e.g. a diagnosis of secondary ITP after enrolment, de novo infections, comorbidities or laboratory abnormalities before baricitinib administration). Safety profiles were analysed in patients receiving at least one dose of baricitinib. This study is registered with ClinicalTrials.gov (NCT05446831).

Results:

A total of 35 patients were enrolled, of which 28 were included in the modified intention-to-treat population. Durable response was achieved in 20 patients (71.4%, 95% confidence interval, 51.3 to 86.8), and initial response was achieved in 18 patients (64.3%). The median time from initial treatment to response was 13 days (IQR, 6.75-22.5). Patients receiving baricitinib showed a median platelet count of over 50×10^9/L since the 4-week follow-up, which then remained stable at $72\text{-}81\times10^9$/L throughout the treatment period. The detailed response profile and platelet counts for each participant are shown in a swimmer's plot (Figure 1). Twenty-two patients (78.6%) received concomitant medications at baseline, including corticosteroids (14/28, 50.0%) and TPO-RAs (12/28, 42.9%). For some patients responding to treatment, these medications were tapered or discontinued. At the last visit, 12 patients (42.9%) were receiving concomitant medications, with 3 patients (10.7%) receiving corticosteroids and 7 patients receiving TPO-RAs (25.0%). Patients receiving baricitinib also reported improved quality of life, which was measured by the Primary ITP-Patient Assessment Questionnaire (ITP-PAQ) scales. The most common adverse events were infections (6/28, 21.4%). Treatment discontinuation due to an adverse event was reported in 1 (3.6%) patient.



Summary/Conclusion:

This is the first study reporting JAK inhibition as a therapy for ITP. Baricitinib at 4 mg daily was well tolerated and potentially effective in the treatment of steroid-resistant or relapsed ITP. This finding may contribute to refined second-line management of ITP, and future randomized, controlled trials are warranted.

Keywords: Idiopathic thombocytopenic purpura (ITP), Clinical trial, Janus Kinase inhibitor