TRANSPORTABILITY TO THE EU POPULATION OF THE EFFICACY OF BELUMOSUDIL VERSUS BEST AVAILABLE THERAPY FOR THE TREATMENT OF CHRONIC GRAFT-VERSUS-HOST DISEASE

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Background: Belumosudil is approved in the US for relapsed/refractory chronic graft-versus-host disease (cGvHD) after 2 failed lines of therapy (LOTs). Assuming similar biological responses between EU and US populations, the effects of belumosudil on EU patients with cGvHD were modelled via transportability analysis based on real-world US population.
Methods: Clinical and demographic data of patients with cGvHD aged >=12 years were collected from 8 US and 32 EU sites between March 1, 2015, and March 27, 2024. Patients with established cGvHD, 2–5 prior LOTs, and no disease relapse were included. At LOT initiation, age, stem-cell source, sex, prior LOTs, organ involvement, and comorbidities were recorded. In the US, overall response (OR) at 6 months after belumosudil treatment or best available therapy (BAT) was recorded for LOTs 3–6 (definition standardized across sites). Using targeted maximum likelihood estimation, targeted outcome regression model trained on US data was developed. This model and baseline data were used to predict treatment-specific outcomes in EU patients (belumosudil or BAT). The effect of interest was calculated as the ratio of OR rate (ORR) or responses at 6 months post LOT initiation (belumosudil vs BAT).
Results: Overall, US (n=196) and EU (n=222) participants received 358 (belumosudil, n=113; BAT, n=245) and 363 (BAT) LOTs, respectively. Baseline characteristics, including sex, conditioning regimen, and history of grade II–IV acute GVHD, were well-balanced between both populations; median age (52.6 vs 57.6 years) and severe cGvHD rate (40% vs 51%) at LOT initiation (3–6) were lower in EU vs US population. After adjusting for EU patient characteristics, 6-month ORR ratio for belumosudil (37.6%) vs BAT (26.3%) was 1.43 (95% CI: 1.05–∞; p=0.03).
Conclusions: Both populations exhibited similar baseline characteristics. Similar to the US-based study, this study indicates that belumosudil would benefit EU patients with 43% improvement in response vs BAT.