Title:

RODEO: A Prospective Multicenter Study Investigating Patient-Guided Tyrosine Kinase Inhibitor (TKI) Dose Reduction in Chronic Phase Chronic Myeloid Leukemia (CML)

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Abstract:

Background: Dose reduction of tyrosine kinase inhibitors (TKI) for patients with chronic myeloid leukemia (CML) can potentially be safe as maintenance therapy and for side effects management. This study aims to assess effectiveness of a patient-guided dose reduction intervention on treatment success. **Methods**: A preliminary analysis of this prospective, single-arm study conducted across 9 Dutch hospitals was performed to assess the feasibility and outcomes of a dose-reduction strategy in adult patients with CML who were receiving TKIs. Eligible participants were adults with CML who had been on TKIs and maintained a major molecular response (MMR) or deeper molecular response (DMR) for at least 6 months. The intervention follows three-step approach: (1) an online patient decision aid to help patients understand and evaluate dose reduction, (2) a shared decision-making consultation with their clinician to discuss their willingness and concerns regarding dose reduction, and (3) a personalized lower dose of TKI for 12 months, tailored to each patient. Primary outcome was proportion of patients with intervention failure, defined as patients who restarted initial TKI dose due to (expected) loss of MMR at 12 months follow-up. Secondary outcomes included patient-reported side effects; quality of life; beliefs about medicines; medication adherence; patients' decisional conflict and regret after choosing dose reduction; and decisional process experienced by patients and clinicians. 19% (90% CI 9.5–28.0%) probability of treatment failure was assumed, requiring 147 patients for 0.80 power, two-sided testing and 5% dropout. **Results**: Currently, 148 patients are enrolled in the study, with a mean age of 61 years (SD 13.7), and 62.1% are male. Dose reductions provided range from 14-75% of the initial dose at study entry. After 12 months of dose reduction (n=123), 12 patients (9.7%) experienced a (expected) loss of MMR after a median of 8 months following dose reduction (range: 3-15 months). These patients resumed their initial doses. The median time to regain MMR after loss was 3 months (range: 1-9 months, n=9). Further results on side effects at 6-month follow-up for the complete study population will be presented at the time of the congress. **Conclusions**: Preliminary results indicate that a patient-guided dose reduction intervention is feasible and safe for at least some patients with CML at 12 months follow-up. Using a patient decision aid and shared decision-making better involves patients in this process, addressing their values and needs.