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Characteristics, treatment and outcome of 15 to 18-year-old adolescents with chronic myeloid leukemia (CML): the experience of the International Registry of Childhood CML (I-CML-Ped Study)

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Chronic Myeloid Leukemia (CML) is a rare disease in children and adolescents. Objectives: To report on features at diagnosis and response to tyrosine kinase inhibitor (TKI) treatment of adolescents (15-18 years of age at diagnosis) with CML in chronic phase (CML-CP). Methods: The I-CML-Ped Study enrolled patients (pts) less than 18 years of age at diagnosis of CML. Data from adolescents with CML-CP were analyzed and compared to data from children less than 15 years enrolled during the same period. Results: Among the 614 pts registered, 144 (23.4%) adolescents were identified. Among them, 132 pts presented with CML-CP. Papable spleen was reported in 67% of the pts and median leukocyte count was 181 G/L [range, 70-327]. Among the 132 adolescents with CML-CP, 124 (94%) were treated with imatinib as first-line treatment. In these 124 pts, the cumulative incidence of major molecular responses (MMR) at month 12 and month 36 were 33.4% (95% confidence interval CI, 24.9-41.9) and 79.8% (95% CI, 71.8-87.7), respectively. With a median follow-up of 4 years (95% CI : 3.6-4.9), 49 (40%) of these 124 pts receiving imatinib as first-line therapy were switched to another treatment and 11 (9%) pts progressed to the advanced phase.

Overall survival (OS) rate of these 124 adolescents was 95.2% (95% CI, 90.8-99.9%) at 5 years.

We did not find a significant statistical difference in terms of cumulative responses (complete cytogenetic response and MMR) to treatment and outcome (progression-free survival, OS) between these adolescents and children less than 15 years. Conclusion: Response to treatment and outcome in adolescents with CML-CP are satisfying in the TKI era and are similar to results in children less than 15 years.

Keywords: adolescents, children, chronic myelogenous leukemia, imatinib.

Biography

Frédéric Millot is a Professor of Pediatrics at the University of Poitiers (France). He is recognized for his clinical research concerning childhood chronic myeloid leukemia (CML) and he has published many peer-reviewed articles in this field. Professor Millot has chaired from 2009 to 2024 the pediatric CML committee of the International BFMstudy group (I-BFM). He is coordinator of the international registry of childhood CML (I-CML-Ped study) and he recently published the International pediatric CML recommendations for the treatment of pediatric CML in chronic phase.