Activity and tolerability of nilotinib: a retrospective multicenter analysis of chronic myeloid leukemia patients who are imatinib resistant or intolerant.

Nilotinib is active in imatinib-resistant and -intolerant chronic myeloid leukemia patients and was recently approved for these indications. Data on the efficacy and safety of nilotinib treatment were collected from 2 phase 2 expanded access clinical trials with similar designs (CAMN107AIL01 and ENACT). Of 88 study patients (58 chronic, 11 accelerated, 19 blast crisis), the best responses to nilotinib were complete hematologic response (CHR) in 27%, partial cytogenetic response in 12%, complete cytogenetic response in 14%, and major molecular response in 19%. Patients achieving at least a CHR during imatinib therapy were more likely to respond to nilotinib, and failure to achieve at least a CHR on imatinib therapy was predictive of progression or lack of response to nilotinib (P=.0021). Responses were not statistically different in subgroup analysis, including that of imatinib intolerance compared with imatinib resistance, presence of ABL kinase domain mutations compared with absence of mutations, and previous treatment with another second-generation tyrosine kinase inhibitor compared with no prior treatment. The overall survival and progression-free survival rates at 1 year were 83% and 48% for the entire cohort, 93% and 66% in chronic phase, and 64% and 19% in advanced phase. Adverse hematological events
included thrombocytopenia (all events, 27%; grade 3-4, 13%) and leukopenia (all events, 18%; grade 3-4, 10%). The majority of the nonhematological events were mild, the most common being rash, infection, bone pain, headache, nausea, and vomiting. Nilotinib treatment is an efficient and safe therapy for imatinib-resistant or -intolerant patients. Prior response to imatinib therapy is a predictor for the response to nilotinib.