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Titel des Beitrags:
Dynamics of BCR-ABL mRNA expression in first-line therapy of chronic myelogenous leukemia patients with imatinib or interferon alpha/ara-C.

Abstract:
We sought to determine dynamics of BCR-ABL mRNA expression levels in 139 patients with chronic myelogenous leukemia (CML) in early chronic phase, randomized to receive imatinib (n=69) or interferon (IFN)/Ara-C (n=70). The response was sequentially monitored by cytogenetics from bone marrow metaphases (n=803) and qualitative and quantitative RT-PCR from peripheral blood samples (n=1117). Complete cytogenetic response (CCR) was achieved in 60 (imatinib, 87%) vs 10 patients (IFN/Ara-C, 14%) after a median observation time of 24 months. Within the first year after CCR, best median ratio BCR-ABL/ABL was 0.087%, (imatinib, n=48) vs 0.27% (IFN/Ara-C, n=9, P=0.025). BCR-ABL was undetectable in 25 cases by real-time PCR, but in only four patients by nested PCR. Median best response in patients with relapse after CCR was 0.24% (n=3) as compared to 0.029% in patients with continuous remission (n=52, P=0.029). We conclude that (i) treatment with imatinib in newly diagnosed CML patients is associated with a rapid decrease of BCR-ABL.
transcript levels; (ii) nested PCR may reveal residual BCR-ABL transcripts in samples that are negative by real-time PCR; (iii) BCR-ABL transcript levels parallel cytogenetic response, and (iv) imatinib is superior to IFN/Ara-C in terms of the speed and degree of molecular responses, but residual disease is rarely eliminated.