

Practice Tools to Manage Patients with Chronic Phase CML

Definition of Responses to First-Line Therapy

Complete hematologic response (CHR)

- WBC <10 x 10⁹/L
- Platelets <450 x 10⁹/L
- No immature granulocytes in peripheral blood
- <5% basophils
- No signs/symptoms of disease
- Nonpalpable spleen

Complete cytogenetic response (CCyR)

- 0% Ph+ metaphases

Major cytogenetic response (MCyR)

- 0%–35% Ph+ metaphases

Partial cytogenetic response (PCyR)

- 1%–35% Ph+ metaphases

Complete molecular response (CMR)

- Undetectable BCR-ABL mRNA by RT-PCR

Major molecular response (MMR)

- ≥3 log reduction or undetectable BCR-ABL mRNA below a standard baseline

Guideposts for Responses to First-Line Therapy

3 months

- CHR

6 months

- Acceptable response: any cytogenetic response (<90% Ph+ metaphases)
- Optimal response: at least PCyR

12 months

- Acceptable response: MCyR
- Optimal response: CCyR and MMR

18 months

- Acceptable response: CCyR
- Optimal response: MMR

Indicators of suboptimal response or treatment failure

- Nonattainment of timed guideposts
- Loss of previously attained CHR, CCyR, or MMR

Warnings

- Detection of additional chromosomal abnormalities
- BCR-ABL kinase domain mutations

Baccarani M, et al. *Blood*. 2006;108:1809-1820.

Next Steps for Patients with Incomplete/No Response to Imatinib and BCR-ABL–Dependent Resistance

BCR-ABL Kinase Domain Mutations

Y253H/K,
E255K/V,
F359C/V/I^a



Dasatinib

V299L,
F317L^b



Nilotinib
or
HD imatinib

T315I



HSCT
or
Investigational
drugs

All Others



Dasatinib
or
Nilotinib
or
HD imatinib

^aThese mutations are relatively resistant to nilotinib. ^bThese mutations are relatively resistant to dasatinib.

No BCR-ABL Kinase Domain Mutations


BCR-ABL amplification/overexpression



High dose imatinib (600–800 mg/day)
or
Dasatinib
or
Nilotinib

Other possibilities include clinical trials with other tyrosine kinase inhibitors (TKIs) or non-TKI therapies. Hematopoietic stem cell transplantation (HSCT) should be considered for patients with accelerated or blast phase chronic myeloid leukemia (CML) not responding to second-line TKIs and for any patient who has failed two TKIs.

Other CME/CE Activities in Oncology You May Be Interested in:


Living Medical Textbook 
Tumor Immunology and Immunotherapy: Metastatic Melanoma Edition

Interactive reference tool supports learning in the field of tumor immunology as it relates to metastatic melanoma, exploring the mechanism of action of novel oncologic therapies.

www.livingmedicaltextbook.org/tumorimmunology

Profiles in CML: Case-Based Approaches to Managing Resistance and Improving Outcomes 

60-minute webcast by three distinguished faculty members in the forefront of CML research describes treatment strategies, including first- and second-generation BCR-ABL kinase inhibitors, for patients with CML.
www.clinicianschannel.com/cmlwebcast

Caring for Oncology Patients 
Tips and Tools for Managing Targeted Therapy

Comprehensive curriculum features practical strategies to help clinicians detect, identify, and manage side effects associated with targeted therapies, to improve quality of life for their patients.
www.projectsinknowledge.com/caringoncology

For more CME/CE programs, or to request email notification of new programs, go to www.projectsinknowledge.com/oncology



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