LETTER TO EDITOR

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Ibrutinib In Hematology

Iffat Jamal

Dear Sir,

Ibrutinib, a first-in-class Bruton's tyrosine kinase (BTK) inhibitor, has revolutionized the management of various hematologic malignancies. Initially approved for mantle cell lymphoma (MCL) and chronic lymphocytic leukemia (CLL), its indications have since expanded to include Waldenström's macroglobulinemia (WM), marginal zone lymphoma (MZL), and chronic graft-versus-host disease (cGVHD).

By irreversibly binding to BTK, ibrutinib inhibits B-cell receptor (BCR) signaling, a critical pathway driving survival, proliferation, and migration in malignant B-cells. This targeted mechanism has yielded impressive clinical results, particularly in CLL, where ibrutinib has become a frontline treatment, demonstrating superior progression-free survival compared to chemoimmunotherapy in multiple clinical trials.

One of ibrutinib's most significant contributions has been its ability to offer durable responses in relapsed/refractory settings. For example, in WM, it has achieved remarkable efficacy in patients harboring MYD88 mutations. Moreover, its oral administration provides convenience and improves patient quality of life compared to traditional intravenous therapies.

However, its use is not without challenges. Adverse events, such as atrial fibrillation, bleeding, and hypertension, require careful monitoring and management. Additionally, treatment resistance, often mediated by BTK or PLCγ2 mutations, remains a concern, necessitating the development of next-generation BTK inhibitors.

As a pioneer in targeted therapy, ibrutinib has not only improved outcomes for patients with hematologic malignancies but also paved the way for subsequent advances in precision medicine. Ongoing research aims to optimize its use through combination regimens and explore its potential in other lymphoid malignancies and autoimmune disorders.

Author's Affiliation: [1]Associate Professor, Department of Pathology (Hematology), Indira Gandhi Institute of Medical Sciences, Patna-800014, Bihar India.

Corresponding author: Iffat Jamal, Associate Professor, Department of Pathology (Hematology), Indira Gandhi Institute of Medical Sciences, Patna-800014, Bihar India.

E-mail: iffatjamal111@gmail.com

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