How do I incorporate FLT3 and IDH inhibitor therapy into my practice?

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Welcome to *Managing AML*. My name is Dr. Amir Fathi, and I direct the Leukemia Program at Massachusetts General Hospital. Today, I'd like to briefly review the incorporation of targeted therapy such as FLT3 inhibitors and IDH inhibitors into the management of acute myeloid leukemia. As is now well-known, the FDA recently approved multiple agents as options for therapy in patients with acute myeloid leukemia. These include the FLT3 inhibitor midostaurin, as well as the IDH1 inhibitor ivosidenib, and the IDH2 inhibitor enasidenib. The incorporation of the FLT3 inhibitor midostaurin is in the upfront treatment of induction-eligible patients who have FLT3 mutations. Therefore, whenever I have a patient who is newly diagnosed with acute myeloid leukemia, I try and establish their FLT3 mutational status. If they have an activating mutation of FLT3, I incorporate midostaurin into 7+3 induction chemotherapy; usually using it as an oral therapy starting on day 8 of induction.

As far the use of IDH inhibitors, both the IDH1 inhibitor ivosidenib and the IDH2 inhibitor enasidenib are approved for use in the relapsed and refractory setting for patients with IDH1 and IDH2 mutations, respectively. Therefore, when I use it, it is typically in patients who have progressed beyond an initial line of treatment, or who have relapsed following achieving initial remission. For example, a patient who has an IDH1 mutation and has gone beyond an initial line of treatment or has relapsed following achieving remission and has persistent IDH1 mutant AML, this is certainly a reasonable patient in whom you could use ivosidenib in an effort to achieve a second response or a second remission. Similarly, I would use the same paradigm in using the IDH2 inhibitor enasidenib in the appropriate relapse and refractory IDH2 mutant patient. Thank you for listening.