Antifungal Prophylaxis With Posaconazole Is Effective in Preventing Invasive Fungal Infections in Acute Myeloid Leukemia Patients During Induction and Salvage Chemotherapy

To the Editor—Pagano et al [1] analyzed the efficacy of antifungal prophylaxis with posaconazole and itraconazole in acute myeloid leukemia (AML) patients receiving induction chemotherapy. There were significant differences in the percentage of breakthrough proven/probable mold infections (posaconazole 2.7% vs itraconazole 10.7%; \( P = .02 \)). The authors concluded that posaconazole prophylaxis conferred an advantage for breakthrough invasive fungal disease and overall survival compared with itraconazole \( (P = .002) \).

The incidence of invasive mold disease (IMD) in all acute leukemia patients receiving chemotherapy in our center from January 2004 to March 2007 was 11\% [2]. For AML patients on induction and salvage chemotherapy, the incidence of IMD was 7.4\% on itraconazole prophylaxis. A change of antifungal prophylaxis to posaconazole was instituted for all AML patients receiving induction and salvage chemotherapy from the end of 2011.

Our department’s leukemia registry was mined for patients who received posaconazole prophylaxis from January 2012 to December 2013. Patients who never received chemotherapy or received palliative chemotherapy were excluded. Case records were reviewed to include “proven” or “probable” IMD cases using the European Organization for Research and Treatment of Cancer 2008 criteria [3]. The incidence, clinical outcome of IMD, and hence the efficacy of posaconazole prophylaxis were determined. This cohort of patients had similar baseline clinical characteristics and received similar types of chemotherapy regimens as the earlier cohort [2].

During this 2-year period, 63 patients received 63 induction chemotherapy courses—35 in 2012 and 28 in 2013. Twenty-seven patients received 30 courses of salvage chemotherapy, with 3 patients each receiving 2 courses of salvage chemotherapy. Posaconazole (200 mg by mouth every 8 hours) prophylaxis was administered from the start of chemotherapy until absolute neutrophil count reached 1000/mm\(^3\). Induction chemotherapy consisted of IA 3 + 7 (idarubicin 3 days, cytarabine 7 days) and salvage regimens included high-dose cytarabine; fludarabine, cytarabine, granulocyte colony stimulating factor ± darubicin; and combinations with clofarabine and azacitidine. There were no cases of proven or probable IMD in 2012. In 2013, there was only 1 case of probable IMD in a patient who received salvage chemotherapy with clofarabine and cytarabine. Bronchoalveolar lavage galactomannan was positive and computed tomography of the thorax showed nodules. She was treated with liposomal amphotericin. There were no cases of proven IMD. The incidence of IMD in these 2 years was 1.1\%.

With posaconazole prophylaxis, IMD incidence for AML patients on induction and salvage chemotherapy was reduced significantly from 7.4\% to 1.1\%. We concluded that posaconazole is an effective antifungal prophylaxis for this cohort of patients. This is in agreement with results from the Pagano et al study [1] that showed that posaconazole prophylaxis conferred an advantage for both breakthrough IMD and overall survival compared with itraconazole prophylaxis. In the Pagano et al study, patients were newly diagnosed AML patients on induction chemotherapy. We included patients on both induction and salvage chemotherapy. The periods of study were 2010–2011 in the Pagano et al study, while our study was from 2012 through 2013. Similar to the Pagano et al study, we had no IMD-attributable mortality.

Based on our findings, we continued to use posaconazole prophylaxis for AML patients receiving induction and salvage chemotherapy.

Note

Potential conflicts of interest. All authors: No potential conflicts of interest.

All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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References


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