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CORRESPONDENCE

# Burden of invasive mold disease in patients with acute myelogenous leukemia and in stem cell transplant recipients

*Dear Editor,*

We read with interest the study by Liu et al[1] about the incidence of proven and probable invasive fungal infection (IFI) in allogeneic hematopoietic stem cell transplant (HSCT) recipients. The study demonstrated that the incidence of IFI was 7.4% in patients at a medical center in Taiwan. An understanding of local IFI epidemiology is crucial in developing comprehensive antifungal strategies to treat various at-risk populations.[2] However, there is a lack of data regarding IFI burden in Taiwan. In addition, our study describes the incidence of invasive mold disease (IMD) in patients with acute myelogenous leukemia (AML) who were undergoing first remission-induction chemotherapy, and in recipients of HSCT at a cancer center in Taiwan.

The Koo Foundation Sun Yat-Sen Cancer Center is a 200-bed cancer hospital that has a dedicated infectious disease consult service, which is a part of the multidisciplinary hematology and stem cell transplant program. The hospital provides routine micafungin prophylaxis for all allogeneic HSCT recipients but not for patients with AML or for autologous HSCT recipients. We retrospectively reviewed medical records from 2010 to 2014 to calculate the incidence of IMD in the following patient populations: (1) AML patients undergoing first remission-induction chemotherapy; (2) autologous HSCT recipients; and (3) allogeneic HSCT recipients. IMD was diagnosed according to the European Organization for Research and Treatment of Cancer/Invasive Fungal Infections Cooperative Group and the National Institute of Allergy and Infectious Diseases Mycoses Study Group (EORTC/MSG) Consensus Group definitions.[3]

In our study, there were 39 AML patients undergoing first remission-induction chemotherapy, 41 autologous HSCT recipients, and 38 allogeneic HSCT recipients. The incidence rates of probable and proven IMD in these three groups were 17.9% ($n = 7$), 0%, and 13.2% ($n = 5$), respectively. Among the AML patients undergoing first remission-induction chemotherapy, the median time from chemotherapy to IMD was 16 days (range, 9–72 days), and pulmonary infection was the most common type of IMD (5 pulmonary infections, 1 sinonasal infection, and 1 pulmonary and sinonasal infection were observed). Among these cases, only one was documented as being caused by *Cladosporium*. Among the allogeneic HSCT recipients, the median time from HSCT to IMD was 294 days (range, 115–567 days), and pulmonary infection was the most common type of IMD (3 pulmonary infections, 1 pulmonary and sinonasal infection, and 1 disseminated infection were observed). Among these cases, one was documented as being caused by *Aspergillus niger* and another by *Paceliomyces*. The occurrence of IMD in allogeneic HSCT recipients was associated with relapse of underlying disease ($n = 4$) and the occurrence of graft-versus-host disease ($n = 1$).

We reported that the incidence of IMD was 13.2% in allogeneic HSCT recipients and demonstrated an even higher IMD incidence of 17.9% in AML patients undergoing first induction-remission chemotherapy. Previous studies have demonstrated various degrees of fungal burden in these high-risk patient populations, but epidemiological studies on IFI, and especially on IMD, have been rare in Taiwan.[4,5] Epidemiological data, such as those presented by our study, are critical for guiding future IFI management strategies and research in Taiwan.

## Conflicts of interest

The authors have no conflicts of interest.

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