Epidemiology of candidemia in hospitalized patients with acute leukemia in the absence of routine antifungal prophylaxis
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Candidemia is one of the most frequent bloodstream infections in the US.
Protocol-based azole prophylaxis is common in acute leukemia; thus, most cases of candidemia are caused by non-albicans species.
In patients with acute leukemia, the epidemiology of candidemia has not been studied in the absence of routine antifungal prophylaxis.
The Aim of this study is to describe the epidemiology and Candida spp. distribution in a contemporary series of patients with acute leukemia and candidemia, in the absence of routine antifungal prophylaxis.

We reviewed medical records of adult (>18 year old) patients with acute leukemia, diagnosed with candidemia at Brigham and Women’s Hospital, where antifungal prophylaxis is not routinely used, between 12/1/06 and 12/31/12. Without routine antifungal prophylaxis, C. albicans is a common cause of candidemia in patients with acute leukemia.
Due to the rarity of antifungal resistance and slow in-vitro growth of Candida isolates (C. glabrata), the time to culture positivity was short, and appropriate antifungals were promptly initiated (Fig. 1).
Candida spp. distribution reflects institutional practices of antifungal administration.
There is a need for multi-institutional registries of candidemia surveillance and antifungal stewardship protocols.

Of 302 first candidemia episodes, 39 (13%) occurred in patients with acute leukemia.
Mean age (SD) was 47 years and 16/39 (41%) were female.
The most common species were C. parapsilosis (38.5%) and C. albicans (33%) (Fig. 2).
Seven strains (18%) were fluconazole-resistant.
C. parapsilosis fungemia was associated with prior micafungin exposure (OR 9.4, p=0.004). At BWH, micafungin is used in the protocol for empiric treatment of persistent neutropenic fever after broad-spectrum antibacterials.
All but one patients (38/39, 97%) received appropriate antifungal treatment at a median of 1 (IQR 0-2) day from blood culture collection.
There was no association between appropriate antifungal treatment and 28-day crude mortality (28%) (time-varying p = 0.441).