‘I’m like a fungus; you can’t get rid of me’ or can you?
An Audit of Candidaemia Management Over One Year in an Irish Tertiary Care University Hospital

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BACKGROUND

Candidaemia is the most common manifestation of invasive candidiasis[1]. Considering its associated morbidity and mortality, we conducted a retrospective audit of cases diagnosed with candidaemia over the previous twelve months at our institute. The aim of our study was to assess compliance with local and international candidaemia management guidelines and to ascertain the clinical outcomes for patients

METHODS

A retrospective medical record review was conducted for all patients diagnosed with candidaemia from September 2019 to September 2020 inclusive. Local hospital guidelines and international guidelines for the Management of Candidiasis were used as the audit standard[2].

RESULTS

A total of 17 patients were diagnosed with candidaemia over the study period. However, only 15 patients were included in the analysis as two (2) patients died before *candida* was isolated from their blood cultures. Overall mortality within 1-month of diagnosis was 26.7% (n=4) and within 1-year was 46.7% (n=7).

Table 1: Patient Demographics

Gender	Male: 8 (53.3%), Female: 7 (46.7%)
Age	Median (IQR): 67 (50-77)
Acquisition Route	Community: 3(20%), Hospital: 12 (80%)
Candida Species	*glabrata*: 6 (40.0%), *albicans*: 7 (46.7%), *parapsilosis*: 1 (6.7%), mixed: 1 (6.7%)
Source	Abdominal: 7 (47%), IV-line: 6 (40%), Genitourinary: 2 (13%)

Table 2: Standards Audited Against

1. Early IV treatment with an echinocandin or acceptable alternative
2. Transition from echinocandin to fluconazole within 5-7 days where appropriate
3. Early source control
4. Follow-up blood cultures every day or every other day
5. Continue treatment for minimum of 2 weeks after documented negative blood cultures and resolution of symptoms
6. Dilated ophthalmological exam within 1 week of diagnosis
7. Echocardiogram within 1 week of diagnosis

Figure 1: Were Standards Met?

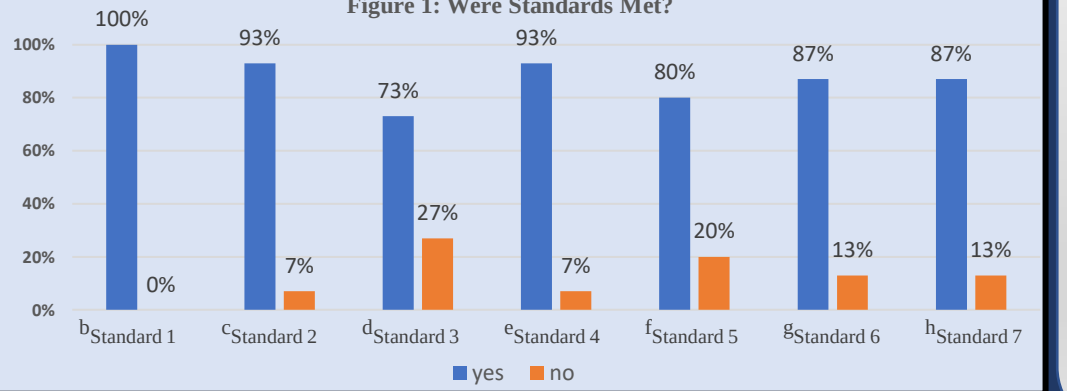


Figure 2: Initial Antifungal Treatment (n=15)

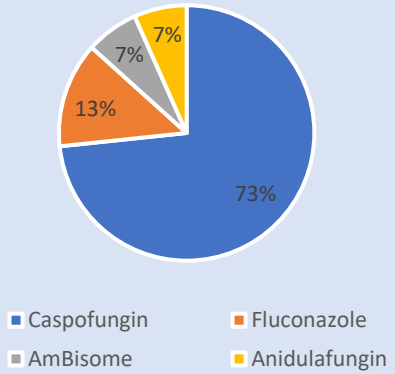
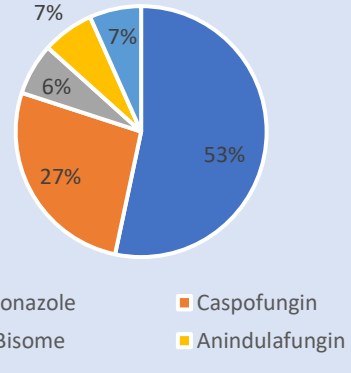


Figure 3: Definitive Antifungal Treatment (n=15)



[b]Early IV treatment with an echinocandin or acceptable alternative was appropriately initiated for *all* patients based on clinical judgement (Figure 2).

[c]All patients received appropriate definitive antifungals based on clinical decision, except in one case where the decision for palliation was made and antifungals discontinued.

[d]Lines were removed in all cases of presumed IV-line associated candidaemia. For abdominal sources, intervention through radiology or surgery was achieved in majority of cases, with inoperability and mortality accounting for cases where source control was unachieved.

[e]Follow-up blood cultures were attained from all patient bar the aforementioned palliated patient.

[f-h]Mortality and palliation accounted for all cases where investigative work-up (ophthalmological examination and ECHO) and treatment courses were not continued.

CONCLUSIONS

Overall, we found that compliance with local and international standards in the management of candidaemia at our institute was optimal, with most patients receiving appropriate treatment and therapeutic interventions. Overall mortality associated with the diagnosis of candidaemia on longitudinal follow-up was high, underscoring the seriousness of this diagnosis. Further interventions to promote effective management of this important condition will continue to be implemented at our institute in collaboration with our local clinical audit department and re-audited.

REFERENCES

1. Quindós, G. Epidemiology of candidaemia and invasive candidiasis. A changing face. *Revista Iberoamericana de Micologia* vol. 31 42–48 (2014).

2. Pappas, P. G. *et al.* Clinical Practice Guideline for the Management of Candidiasis: 2016 Update by the Infectious Diseases Society of America. (2015) doi:10.1093/cid/civ933.