

00044 Candidaemia 30-day all-cause mortality in England: a retrospective review of clinical characteristics, epidemiology and risk factors, 2009 to 2016

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Background: Invasive fungal diseases are an emerging global concern with some countries reporting *Candida* spp. as one of the top three causes of bloodstream infection. In recent years, England reported candidaemia as being the 10th most common laboratory reported bloodstream infection. Following international reports of high mortality rates with *Candida auris*, we reviewed the all-cause mortality rate in patients with candidaemia in England. This study describes candidaemia patient characteristics and determines factors that impact candidaemia 30-day all-cause mortality, focusing on antifungal resistance, age and species.

Materials/methods: Candidaemia cases in England were identified from routine laboratory surveillance between 2009 and 2016. Mortality outcome at 30-days post-specimen date was ascertained by linking cases to the National Health Service (NHS) Spine (centralised repository of patient information); patients were lost to follow up if they could not be linked. A proportion of 30-day all-cause mortality was calculated and relative risks (RR) for *Candida* species, patient demographics and antifungal susceptibility results were assessed.

Results: A total of 10,135 candidaemia cases were identified and linked to the NHS Spine. Seventeen different species of *Candida* were identified from blood cultures, 10% were not identified beyond genus. Overall candidaemia 30-day mortality was 33.6% (95% CI:32.7-34.6%), with a median time-to-death of 6 days. Mortality varied by gender (35.1% males, 31.7% females), and increased with age, with two times greater risk of death within 30 days for those aged 75y compared with those aged <1y (48.3% vs. 19.6%; RR 2.0 (95% CI:1.6-2.5)). Cases with recorded antifungal susceptibility test results had reduced risk of mortality compared to those without (RR 0.8 (0.75-0.85); 29.2% vs 36.4%). Mortality was highest for candidaemia isolates identified to genus only (36.5%), followed by *C. albicans* (36.1%) and *C. glabrata* (35.2%); the lowest was *C. auris* (12.5%).

Conclusions: This is the first national study on candidaemia 30-day all-cause mortality in England. The limited ability to fully identify yeasts is concerning, and could suggest an increased likelihood of misidentification of non-*Candida* genera which are often more resistant to first-line antifungal agents. Interventions to reduce mortality need to be multifaceted and include improved diagnostics and monitoring of antifungal susceptibility.

