including New York (8 cases), Massachusetts, Pennsylvania, Connecticut, and Rhode Island (3 cases each) (1.2); single cases have been identified in Michigan, Ohio, North Carolina, Oklahoma, New Jersey, Louisiana, Florida, and California (1.2). Four other cases have been reported: 3 in South America (Colombia, Brazil, Peru) (3,7,8) and 1 in Africa (Ethiopia) (9). Only a few Brugia species have been identified, including B. leporis, found in rabbits in the northeastern United States (1,10); B. beaveri, found in raccoons and bobcats in the southern United States; and B. gyaenensis, found in coatimundi and other vertebrates in South America (8). Definitive identification with molecular techniques will help identify causative species and help clarify many of the ecologic and epidemiologic questions surrounding zoonotic filarial infections.

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References


Candida auris–Associated Candidemia, South Africa

To the Editor: We noted the report by Chowdhary et al. (1) and report Candida auris as a causative agent of candidemia in South Africa, with an estimated prevalence of 0.3% (N.P. Govender et al., unpub. data). First isolated in 2009, C. auris is an emerging species associated with clinical disease (2–6). We analyzed 4 isolates submitted to the National Institute for Communicable Diseases (Johannesburg, South Africa) from 4 patients with candidemia who had been admitted to different public- and private-sector hospitals from October 2012 through October 2013.

Identification of the isolates was undertaken by using ChromAgar Candida medium (Mast Diagnostics, Merseyside, UK), Vitek-2 YST (bioMérieux, Marcy l’Etoile, France), API 20C AUX (bioMérieux), and sequencing of internal transcribed spacer (ITS) and D1/D2 domains of the ribosomal RNA gene (7), followed by microbroth dilution susceptibility testing (8). All isolates were misidentified as C. haemulonii and Rhodotorula glutinis by Vitek-2 YST and API 20C AUX assays, respectively (Table).

Similar to the findings of Chowdhary et al., all isolates assimilated N-acetyl-glucosamine (1). With the use of the CBS-KNAW database, pairwise sequence alignment of ITS region showed 99% sequence homology to Kuwait isolates, and alignment of D1/D2 domain showed 98% homology to the Kuwait/India isolates (9). In a neighbor-joining phylogenetic tree based on ITS sequences, South Africa isolates formed a cluster with India and Kuwait isolates (online Technical Appendix Figure, http://wwwnc.cdc.gov/EID/article/20/7/13-1765-Techapp1.pdf).

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Fluconazole MICs were high for all isolates (Table). Isolates 209 and 224 showed reduced voriconazole susceptibility with MICs of 1 µg/mL and 2 µg/mL, respectively, which is above the epidemiologic cutoff value for 11 Candida species (10). Isolates were susceptible to amphotericin B and echinocandins at low MICs Clinical data were available for 1 patient (online Technical Appendix Table). Two C. haemulonii isolates were identified during laboratory-based sentinel surveillance for candidemia in South Africa; the ITS region of one isolate was sequenced and the isolate identified as C. auris (N.P. Govender, pers. comm.). In this study, C. auris was misidentified by routinely used tests and was accurately identified by sequencing, in keeping with previous findings (1,3,4,6).

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Technical Appendix Figure. Phylogenetic relatedness of internal transcribed spacer region of the ribosomal RNA gene of *Candida auris* with closely related *Candida* species. Scale bar indicates nucleotide substitutions per site.
Technical Appendix Table. Clinical characteristics of a 73-year-old male patient with candidemia caused by *Candida auris*, South Africa

<table>
<thead>
<tr>
<th>Isolate ID</th>
<th>Risk factor</th>
<th>Antifungal treatment</th>
<th>Outcome</th>
</tr>
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</table>
| 224        | Referred to a public-sector specialist burn unit from a private-sector hospital  
40% third-degree burns with inhalational injury; required débridement, skin grafts, and tracheostomy  
In situ: central venous catheter/s, arterial line, urinary catheter  
Mechanically ventilated  
Multiple episodes of sepsis requiring broad-spectrum antimicrobial drugs, including β-lactams, colistin, linezolid, and vancomycin  
Renal failure requiring hemodialysis | Amphotericin B deoxycholate (received only 1 dose)                                                                                                  | Died 35 d after admission to hospital                          |