Antibiotic Susceptibility of *Candida* Isolates in a tertiary care hospital in Southern India

Dear Editor,

Systemic infections due to yeasts and resistance to antifungals is on the rise in Indian hospitals.¹ Candida albicans accounts for 40-60% of yeasts isolated in developed countries² whereas Indian reports show an increased predominance of non C. albicans isolates. 1 Increasing resistance to azoles and amphotericin B has been reported both from India and other countries.^{1,2} Given the paucity of data from southern India on the profile of yeast isolates and prevailing patterns of susceptibility to antifungals we speciated 77 yeasts obtained from culture of clinical specimens [Respiratory 22 (27.8%), blood 22 (25.3%), vaginal 12 (15.2%), urine 13 (16.5%) and others 10 (12.7%)] and estimated susceptibility to antifungal drugs. The study period was from September 2004 to March 2005. Isolates of Candida were identified by Gram stain of colony morphotypes suggestive of yeasts and were presumptively reported as C. albicans or Candida spp. based on the positive or negative germ tube test. Species level identification and antifungal susceptibility were done using the API ID 32C for identification and ATB Fungus 2 (bioMerieux, France).³ Manufacturers' instructions were strictly followed and adequate quality control measures were undertaken to ensure sterility and efficacy of media and reagents used.

The distribution of *Candida* spp. and their susceptibility is portrayed in the table. The common isolates were *C*.

albicans 36(47%), *Candida tropicalis 18*(23%) and *Candida pelliculosa 5*(6%). These three species accounted for 76% of *Candida* isolates. *C. pelliculosa* was isolated only from blood cultures of newborn in the neonatal ICU.

Germ tube test was positive in 89% of isolates speciated as *C. albicans* and 5% of *C. tropicalis*. The loss of susceptibility of *C. albicans* to azoles (fluconazole -30% and itraconazole 75%) is of concern although amphotericin B and flucytosine continue to show good efficacy. It is necessary to start presumptive therapy with either of these two antifungals when *C. albicans* is reported. Of the other *Candida species* only *C. pelliculosa* showed 100% susceptibility to the azoles. Flucytosine displays no efficacy against *C. pelliculosa*, *C. krusei* and *C. parapsilosis*. With multiple antifungals and varying susceptibility patterns of *Candida* it has now become necessary to perform antifungal susceptibility testing real-time and make reports available to the clinician for effective therapeutic outcome.

References

1. Chakrabarti A, Mohan B, Shrivastava SK, Marak RS, Ghosh A, Ray P. Change in distribution and antifungal susceptibility of *Candida* species isolated from candidaemia cases in a tertiary care centre during 1996-2000. *Indian J Med Res* 2002;**116**:5–12.

Table: Profile of <i>Candida</i> isolates and their susceptibility							
Isolate	Number (%)	FCNZ (% S)	ICNZ (% S)	AMPB (% S)	FLUCY (% S)	GT (+) (%)	GT (-) (%)
Candida albicans	36 (47)	30.6	75	100	97.2	89	11
Candida tropicalis	18 (23)	22.2	77.8	88.9	72	5	95
Candida pelliculosa	5 (6)	100	100	60	0	-	100
Candida krusei	7 (9)	0	14.3	42.9	0	-	100
Candida parapsilosis	4 (5)	0	75	100	0	-	100
Germ tube (-) isolates	45 (57.7)	29.5	65.9	79.5	59.1		
Germ tube (+) isolates	33 (42.3)	27.3	78.8	100	97		

FCNZ- Fluconazole, ICNZ - Itraconazole, AMPB - Amphotericin B, FLUCY - Flucytosine, GT - Germ Tube

 Pfaller MA, Diekema DJ, Jones RN, Messer SA, Hollis RJ. Trends in antifungal susceptibility of Candida spp. isolated from pediatric and adult patients with bloodstream infections: SENTRY Antimicrobial Surveillance Program, 1997 to 2000. *J Clin Microbiol* 2002;40:852–6. L Srinivasan, *J Kenneth Department of Laboratory Medicine, Sagar Apollo Hospital, Bangalore – 560 064, Karnataka, India

3. Buchaille L, Freydiere AM, Guinet R, Gille Y. Evaluation of six commercial systems for identification of medically important yeasts. *Eur J Clin Microbiol Infect Dis* 1998;**17**:479–88.

*Corresponding author (email: <john.kenneth@lvpei.org>) Received: 10-09-05 Accepted: 16-09-05