Comments on "*Candida glabrata* candidemia; an emerging threat in critically ill patients"

Sir,

The article "*Candida glabrata* candidemia; An emerging threat in critically ill patients" very well highlights the importance of this emerging species.[1] Due to delay in time to positivity for blood culture, empirical antifungal therapy is an important strategy in the management of invasive candidiasis, more so for *C. glabrata* infection. Appropriate empirical therapy requires identification of high risk group. In the present study, authors have reported broad spectrum antibiotic, mechanical ventilation, central venous catheter, diabetes mellitus and age >65 years as risk factors for *C. glabrata* candidemia. We agree with Chakrabarti's view that due to lack of control group in the study, it is difficult to draw any inference regarding the risk factors.[2]

At least two authors have attempted to develop risk model to predict *C. glabrata* candidemia.

Tapia *et al*. studied 246 cases of candidemia, out of which 68 cases were due to *C. glabrata*.[3] Four factors independently associated with *C. glabrata* candidemia were absence of renal failure, <7 days in the hospital, abdominal surgery and fluconazole use. The model had moderately good discriminating ability between *C.glabarata* candidemia and non *C. glabrata* candidemia (c-statistic value 0.727 [95% confidence interval: 0.635–0.775]).

Another risk prediction model was developed by Cohen *et al*. in a study including 48 *C. glabrata* candidemia patients and 106 had nonglabrata fungemia.[4] The model identified six factors independently associated with *C. glabrata* candidemia. These were age >60 years, recent abdominal surgery, interval from intensive care unit admission to first positive blood culture <7 days, recent use of cephalosporins, solid tumor, and absence of diabetes mellitus. The model had good discriminating ability (c-statistics value 0.89).These models require external validation before they can be generalized in different cohorts.

Both above described models have identified gastro surgery as an independent risk factor for *C. glabrata* candidemia.[3,4] *C. glabrata* is a frequent gut colonizer

in hospitalized patients and can disseminate to cause candidemia in susceptible host. It has been shown in animal model that gut of antibiotic-treated mice can act as a reservoir for *C. glabrata*. It would be enlightening if the authors can report the data regarding, nature of surgeries done in the surgical group.

Hospitalized patients are frequently colonized with *Candida*. Risk of candidemia increases with increase in density of colonization and number of colonized sites.[5] The method used for identifying urine as the most common source of *C. glabrata* candidemia needs to be mentioned in the study. Authors have stated that candiduria is a useful indicator for systemic candidiasis, but it is unclear from the results that what were the other sites looked for. Interpreting the source of candidemia without studying different sites for colonization and typing the strain can give misleading results.

Local epidemiology is important to guide empirical antifungal therapy. More studies are needed to identify the risk factors for *C. glabrata* infection and colonization as well as to conduct external validation of already existing risk models.

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DOI: 10.4103/0972-5229.156501