

Candida albicans isolates from a Malaysian hospital exhibit more potent phospholipase and haemolysin activities than non-albicans Candida isolates

ABSTRACT

This study was aimed at determining the phospholipase and haemolysin activity of *Candida* isolates in Malaysia. A total of 37 *Candida* clinical isolates representing seven species, *Candida albicans* (12), *Candida tropicalis* (8), *Candida glabrata* (4), *Candida parapsilosis* (1), *Candida krusei* (4), *Candida orthopsilosis* (1) and *Candida rugosa* (7) were tested. In vitro phospholipase activity was determined by using egg yolk plate assay whereas in vitro haemolysin activity was tested by using blood plate assay on sheep blood Sabouraud's dextrose agar (SDA) enriched with glucose. Phospholipase activity was detected in 75% (9 out of 12) of the *C. albicans* isolates. Among the 25 non- *C. albicans* *Candida* isolates, phospholipase activity was detected in only 24% of these isolates. The phospholipase activity of *C. albicans* was significantly higher than that of the non- *C. albicans* *Candida* isolates ($P=0.002$). Haemolysin activity was detected in 100% of the *C. albicans*, *C. tropicalis*, *C. glabrata*, *C. krusei*, *C. parapsilosis*, and *C. orthopsilosis* isolates while 75% of the *C. krusei* isolates and 12.3% of the *C. rugosa* isolates showed haemolysin activity. The haemolytic activity of *C. albicans* was significantly higher than that of the non- *C. albicans* *Candida* isolates ($P=0.0001$). The findings in this study indicate that *C. albicans* isolates in Malaysia may possess greater virulence potential than the non-albicans species.

Keyword: *Candida albicans*; Malaysian hospital; Phospholipase; Haemolysin activities; Non-albicans *Candida* isolates