Summary and Conclusion

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Fungal infection in critically ill patients is an increasingly prevalent problem. The importance of fungi as pathogens in (ICU) is increasing as a result of advances in life- support systems, wider use of broad spectrum antibiotics and an increasing proportion of susceptible elderly patients.

The aim of this work was to estimate the prevalence of fungal infection in (ICU) and to test the efficacy of some diagnostic laboratory techniques.

The current study included 60 patients with risk factors predisposing to mycoses. They were selected from (ICU) of Benha University Hospital regardless their cause of admission.

Candida species isolated from oral, sputum and rectal swabs were identified by conventional standard techniques including germ tube and sugar assimilation tests. Furthermore, they were identified by their specific colours on Chromagar. *Aspergillus* species isolated from oral swabs and sputum were identified by their specific colours on sabouraud's dextrose agar.

Candida infection was present in 90.3% of the studied group. Seven *Candida* species were isolated: *C.albicans* had the highest prevalence rate (54.5%), *C.tropicalis* (21.5%), *C.krusei* (14%) *C.pseudotropicalis* (5.9%), *C. glabrata* (1.6%), *C.stellatoidea* (1.6%) and *C.parapsillosis* (0.8%).

Aspergillus infection was present in 9.17% of the studied group.

Three *Aspergillus* species were isolated: *A.niger* (3.7%), *A.flavus* (3%) and *A.fumagatus* (3%) .

The distinctive green colour of colonies on Chromagar medium were identified as *C.albicans* (54.5%) which was confirmed by germ tube positive, while the germ tube negative isolates were identified as *C.tropicalis* (21.5%) with the distinctive dark blue gray colony, *C.krusei* (14%) with rough, spreading colonies with pale pink centers and white edges, *C.glabrata* (1.6%) showing dark pink colony colour and (8.2%) similar white, pale pink colony colour of undifferentiated species. Those species were identified using sugar assimilation test into *C.pseudotropicalis* (5.7%), *C.stellatoidea* (1.6%) and *C.parapsillosis* (0.8%).

There was 100% correlation between results of germ tube and Chromagar *Candida* medium.

Conclusion:

Certainly, germ tube test remains the method of choice for detection of *C.albicans* with the advantage of being highly sensitive (100%) and inexpensive.

Chromagar *Candida* medium can differentiate clearly between *C.albicans*, *C.tropicalis*, *C.krusei* and *C.glabrata*. So Chromagar *Candida* medium may be used as an easy, rapid method for identification of clinically important *Candida* species encountered in different clinical specimens; versus the more difficult methods as biochemical reaction which are advised to be used only in identification of species that give similar colour on Chromagar medium.