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ANTICANDIDAL ACTIVITY OF ETHANOLIC EXTRACT OF CLOVE AGAINST CLINICAL ISOLATES OF CANDIDA

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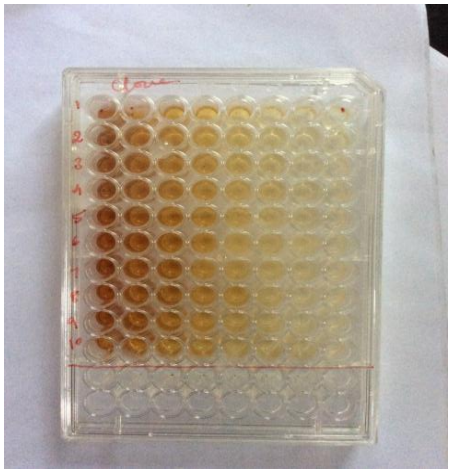
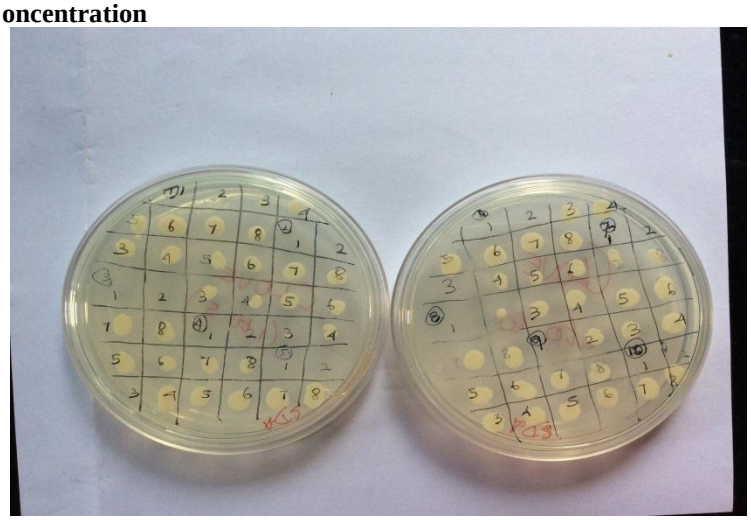
The incidence of both community acquired and hospital acquired mycotic infections has significantly elevated since past few decades, in accounts of growing number of high risk patients, those with impaired immunity.[1] One of the most disadvantage of using antifungal agents to such patients are more lethality, drug-drug interactions, inability to show antifungal effect, cost and resistance mechanisms operating in fungal agents. Despite being the recent introduction of newer antifungal agents, herbal armamentarium are still limited in clinical practice.[2,3] Hence we have taken this objective to determine the activity of ethanolic extract of clove (Syzygium aromaticum) against clinical isolates of candida species. A total of 10 clinical isolates were subjected to this study, which includes 4/10(40%) from oral thrush, 3/10(30%) from blood,3/10(30%) from urine of HIV patients. Of 10 candida isolates, 6/10(60%) were C.albicans, 4/10(40%) were C.tropicalis. The anticandidal activity of our isolates was performed by Minimum Inhibitory Concentration (MIC) followed Minimum Fungicidal Concentration (MFC).[4] The dilution ranging from 4-0.06%(v/v) concentration. A sterile sabouraud chloramphenicol media without oil served as control plate for candidal growth. Overnight culture suspension of candida isolates were adjusted to 0.5 McFarland standard for turbidity and 10µl of culture suspensions were inoculated to all wells. 6/10(60%) isolates were found to be inhibited at 2%.2/10(20%) isolates were inhibited at 1%.2/10(20%) isolates were inhibited at 4% of ethanolic extract of clove. The MIC value of ethanolic extract of clove was found to be 1-4%. Similarly, study performed by Hammer 1999 on antimicrobial activity of essential oils, found that MIC value of 0.25% was determined.[5] This extract was shown to have inhibitory effect on clinical isolates of candida. The anticandidal activity of clove is may be due to the presence of eugenol as active principle.[6] In view of the fact that the spectrum of activity of clove is quite versatile in our isolates. Hence, we conclude that clove as natural product or incorporated in other formulations might possibly reduce the candidal load in infected patients. This might serve as one of the alternatives and complementary medicine for prompt clinical management of candidiasis.

Dilution



Minimum Inhibitory Concentration



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