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Potential Activity Of Cinnamomum Verum Extracts Against Expression Of ERG3 And ERG11 Genes in Oral *Candida Albicans* Infection

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Abstract

In the current study, the inhibitory effect of the alcoholic extract of cinonmmum bark on *Candida albicans* was tested, as well as the effectiveness of different concentration this extract on the growth of *Candida albicans* by examining the level of gene expression of the ERG3 and ERG11 genes via qRT-PCR.

Samples have been tested in excess of 50 and have been evaluated by different methods. 50(100%) is of the albican type. The capacity of *C.albicans* in yeast to grow has been observed using different media and agar (SDA,CHRONAGAR,CANDIDA AGAR) as well as different concentrations (3.125,6.25,12.5,25,50,100,200,400) of the alcoholic extract of the cinonmmum plant have been tested on the growth yeast by the well diffusion method and microdilution method. Through the qRT-PCR method, the level of gene expression of (ERG3, ERG11) was measured to determine the inhibitory effect of the extract.

To compare the synthetic antifungal with the cinnamaldehyde extract, choose Nystatin and Amphotericin B as an example. The zone of inhibition for Nystatin is 24 mm and for Amphotericin B were 26mm, when compared with the cinnamaldehyde extract, the concentration of 100.200.400 mg/ ml was more effective than both (Nystatin and Amphotericin B).

The results indicated that the majority of oral yeast infections are caused by *Candida albicans* , the results also indicated that the concentration of 400 mg/ml had the greatest inhibitory effect (35mm), while the concentration of 12.5 mg/ml had the lowest effect (8mm) and the lowest inhibitory concentration (MIC) was calculated, it was (12.5)mg/ml for yeast cells, while the (MIC) against Candida was (25mg/ml) when the gene expression of the (ERG3.ERG11) gene was calculated..

Conversely, the levels of the Chang fold of the ERG3 gene were significant differences primarily in concentrations of 25 and 50 mg/ml, while the ERG11 was the negative control (versus it). 25, Negative control vs. 50, 12.5 vs. 25, 12.5 vs. 50, 25 vs. 50) all that is significant except Negative control vs. The P value for the 12.5 statistic was non-significant. Concentrations of 12.5 mg/ml had no significant effect when compared to the control at the prospect, $p < 0.05$.

From the current investigation, we concluded that the alcoholic extract of cinonmum bark had a high efficiency in promoting the growth of *Candida albicans* through its effect on (ERG3, ERG11) genes, this suggests that the extract may be used as a treatment for patients suffering from candidiasis because of its effect against the virulence factors that contribute to the pathogenicity of the fungus and make it more resistant to antifungal agents..