Antibacterial activity of Curcuma longa extract against Staphylococcus aureus isolated from different infections and comparison with effects of selective antibiotics in vitro

Introduction and Aim: Staphylococcus aureus is an important pathogen and produce a widespread infections. Increasing of antibiotic usage for S.aureus infections, created antibiotic resistance and subsequently to produce new antibiotics. Medicinal herbs with antimicrobial activity has been important role in traditional medicine. purpose of this study was to determine antibacterial activity of methanolic extract of Curcuma longa rhizome against Staphylococci isolated from different infection and to compare with effects of selected antibiotics in vitro.

Methods and Materials: This research is a descriptive – analytic study. First, a sample of methanolic extract of the plant rhizome was prepared by maceration method. Then its antibacterial activity against 200 isolates of Staphylococcus aureus from 263 samples of different infection was evaluated by well diffusion and then Agar Serial Dilution method. Also, the MIC (Minimum Inhibitory Concentration) of extract was determined. The effect of selected antibiotics was tested by disk diffusion method.

Results: The frequency distribution tables, diagrams, kay square, and T test were used to describe and analyze the data. The results demonstrated that the plant extract had been effected against 155 of Staphylococcus aureus isolated(77.5%). The MIC of the extract for this bacteria was 3.7 mg/ml,while they were often resistant to selected antibiotics. There was significant difference between the effects of plant and antibiotics on Staphylococcus aureus. (P<0.05).

Conclusion : This study demonstrates that methanolic extract of Curcuma longa have good antibacterial activity against Staphylococcus aureus isolated from different infections. However, we need more investigation In vitro and In vivo by researchers.

Curcuma longa, Methanolic extract, Staphylococcus aureus, Infection

Presentation: Poster