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Antimicrobial Activity of Some Plant Extracts against Clinical Pathogen and Candida Species

Authors : Marwan Khalil Qader, Arshad Mohammad Abdullah

Abstract : Antimicrobial resistance is a major cause of significant morbidity and mortality globally. Seven plant extracts (Plantago mediastepposa, Quercusc infectoria, Punic granatum, Thymus lcotschyana, Ginger officeinals, Rhus angustifolia and Cinnamon) were collected from different regions of Kurdistan region of Iraq. These plants' extracts were dissolved in absolute ethanol and distillate water, after which they were assayed in vitro as an antimicrobial activity against Candida tropicalis, Candida albicanus, Candida dublinensis, Candida krusei and Candida glabrata also against 2 Gram-positive (Bacillus subtilis and Staphylococcus aureus) and 3 Gram-negative bacteria (Escherichia coli, Pseudomonas aeruginosa and Klebsilla pneumonia). The antimicrobial activity was determined in ethanol extracts and distilled water extracts of these plants. The ethanolic extracts of Q. infectoria showed the maximum activity against all species of Candida fungus. The minimum inhibition zone of the Punic granatum ethanol extracts was 0.2 mg/ml for all microorganisms tested. Klebsilla pneumonia was the most sensitive bacterial strain to Quercusc infectoria and Rhus angustifolia ethanol extracts. Among both Gram-positive and Gram-negative bacteria tested with MIC of 0.2 mg/ml, the minimum inhibition zone of Ginger officeinals D. W. extracts was 0.2 mg/mL against Pseudomonas aeruginosa and Klebsilla pneumonia. The most sensitive bacterial strain to Thymus lcotschyana and Plantago mediastepposa D.W. extracts was S. aureus and E. coli.

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