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EFFECT OF *TEUCRIUM POLIUM* EXTRACT ON *STAPHYLOCOCCUS AUREUS* BACTERIA ISOLATED FROM WOUNDS AND BURNS

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ABSTRACT : The study included the collection of 4 clinical isolates of *Staphylococcus aureus* from burns and wounds swabs as they were collected from Al-Yarmouk Hospital in Baghdad city and through the results of bacteriological culture on the media of the blood agar, and the morphological and biochemical diagnosis and confirmation of the diagnosis by the Vitec system. It was confirmed that these bacterial isolates belong to *Staphylococcus aureus*. An Antibiotic sensitivity test was conducted for four commonly used antibiotics, which are Erythromycin, Vancomycin, Meropenim, Amoxi-clav and the results showed a variation in the effectiveness of these antibiotics against *Staphylococcus aureus*, as it was found that the most effective anti-these bacteria are Meropenim and Vancomycin. 75% of the isolates showed sensitivity to these two antagonists, followed by Erythromycin (50%), while it was found that the least effective antagonist against *Staphylococcus aureus* bacteria was Amoxi-clav as the rate of resistance of the isolates was (75%). The results of the test showed the anti-microbial efficacy of the aqueous extract of the leaves of the Tucriumpolium plant using four different concentrations, which are 0.1,0.2,0.3,0.5 (mg / ml) against *Staphylococcus aureus*, as the results showed the presence of anti-microbial activity towards 75% of the isolates of *Staphylococcus aureus* bacteria. And the most effective concentration against these bacteria is 0.1 mg / ml, while there is one isolate, Isolation No. 4, which showed resistance to all concentrations used from the aqueous extract of Tucriumpolium plant as well as its resistance to all types of antibiotics used in the current study, the results of the extraction of phenolic compounds showed. In an extract of the plant extract using an HPLC device, the Quercetin compound was found at a concentration of 447.2ppm, followed by Rutin, Catechine and Keamferol with concentrations of 376.69, 103 and 17.27, respectively.

Key words : *Staphylococcus aureus*, Tucriumpolium, HPLC.

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INTRODUCTION

The increase in the use of antibiotics in the treatment of microbial diseases has led to the acquisition of resistance to these antibiotics by the bacteria against which this type of antibiotic is used (Abbas *et al*, 2019). The resistance shown by the germs to many commonly used antibiotics necessitated research and discovery of alternative anti-substances and compounds.To these germs. The abundance of medicinal plants, estimated at 400,000 thousand species, made traditional herbal medicine cheaper compared to modern medicine (Naz *et al*, 2010). The World Health Organization (WHO, 2013) has identified a number of plants, including Tucriumpolium plant, from plants whose extracts can be used in alternative medicine, using techniques of extraction, fractionation, concentration and other physical processes through which pharmaceutical products are produced that are described as medicinal treatments (Alo *et al*, 2012).

Teucrium polium plant is a member of the labium family and is a perennial herbaceous plant widely spread in the hills and deserts of the Mediterranean countries, Iran and Iraq. It was used in the treatment of blood pressure and renal intestinal colic, cold and fever diseases, it was also used to treat skin diseases in addition to being an antibiotic and antibacterial. It was also used to treat stomach and intestinal problems and for stomach ulcers. And volatile oils in addition to carbohydrates, turbines, sterols and glycosides (Bahramikia and Yazdanparast, 2012).

In view of the importance of this plant and its wide use in a number of countries, including Iran, Egypt, Syria,