

## عنوان مقاله:

Evaluation of the gold nanoparticles prepared by green chemistry in the treatment of cutaneous candidiasis

## محل انتشار:

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## نویسندگان:

Hassan Kareem - *Department of Microbiology, Faculty of Veterinary Medicine, University of Kufa, Al-Najaf, Iraq*

Hayder Samaka - *Department of Microbiology, Faculty of Veterinary Medicine, University of Kufa, Al-Najaf, Iraq*

Wasna'a Abdulridha - *Department of Basic Sciences, College of Dentistry, University of Kufa, Al-Najaf, Iraq*

## خلاصه مقاله:

**Background and Objectives:** Mineral nanoparticle synthesis via green chemistry is considered a novel procedure that has been introduced into some industries and medical fields. This paper aimed to focus on synthesized gold nanoparticles (AuNPs) prepared via green chemistry and their usage in the treatment of cutaneous candidiasis. **Materials and Methods:** This study was performed on the green synthesis of AuNPs using olive leaf extract as a reducing agent. The UV visible spectroscopy, X-ray diffraction, and atomic force microscopy techniques were used to detect the concentration of the prepared AuNPs. The agar gel diffusion method was used to test the antifungal activity of the prepared AuNPs in vitro. Antifungal efficacy of the AuNPs in vivo was tested by the induction of cutaneous candidiasis in mice. This research was conducted on four groups of mice. Groups ۱ and ۲ were used to evaluate the effectiveness of the AuNPs suspension and Nystatin ointment in the treatment of clinical infection, respectively. Groups ۳ and ۴ were the infected and the non-infected control groups, respectively. **Results:** Based on the findings, the AuNP synthesis using olive leaves was a suitable and secure method. Moreover, it was found that the AuNP concentration of ۴۰.۷۷ ng/ml represented the minimum inhibitory concentration for the inhibition of the *Candida albicans*. The prepared AuNPs were more effective than Nystatin in the treatment of cutaneous candidiasis. **Conclusion:** Preparation of AuNPs via green chemistry using olive leaves as a reducing agent is a safe and easy procedure that can be performed to produce AuNPs. In this study, the AuNPs displayed antifungal activity both in vitro and in vivo.

## کلمات کلیدی:

*Candida albicans*, Cutaneous candidiasis, Gold Nanoparticles, Olive leaves

## لینک ثابت مقاله در پایگاه سیویلیکا:

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