

عنوان مقاله:

Evaluation of Antimicrobial Effects of Zinc Oxide Nanoparticles and extract of Solanum nigrum on Pseudomonas aeruginosa isolated from clinical specimens

محل انتشار:

دوفصلنامه طب گیاهی پیشرفته، دوره 4، شماره 4 (سال: 1397)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Background and aims: The purpose of this study was to evaluate the antimicrobial effects of zinc oxide nanoparticale and extract of Solanum nigrum on Pseudomonas aeruginosa bacteria isolated from clinical specimens. **Methods:** Zinc oxide was purchased from the market. ۲۰g of the dried and pounded leaves of S. nigrum was used and its extract was prepared in rotary device. ۱۲ isolates of P. aeruginosa were isolated from referred patients to hospital Zabol. Finally, ۱۲ isolates were used to growth inhibitory activity assay. Minimum bactericidal concentration (MBC) and minimum inhibitory concentration (MIC) of Zinc oxide and extract plant against P.aeruginosa were evaluated using micro broth dilution method. **Results:** The highest inhibitory concentration for P. aeruginosa is ۱۵۰۰ µg/ml, with four bacterial strains being inoculated. Also, the results showed that the highest drainage concentration was ۳۰۰۰ µg/ml, which two strains were inhibited in this concentration and the lowest trap concentration was ۹۳ µg/ml. The lowest inhibitory concentration of extract plant was ۰.۶۲ mg / ml, with only one strain being inhibited in this concentration. The highest inhibitory concentration for P. aeruginosa is ۴۰ mg / ml, with four bacterial strains being inoculated. **Conclusion:** The results showed that zinc oxide and extract of Solanum nigrum have a good antimicrobial activity on the bacterium and .increases the concentration of antimicrobial activity

کلمات کلیدی:

Zinc oxide nanoparticles, Solanum nigrum, Antimicrobial activity, Pseudomonas aeruginosa

لینک ثابت مقاله در پایگاه سیویلیکا:

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