عنوان مقاله:

Antibacterial Activity of Copper Nanoparticles on Streptococcus group A

محل انتشار:

بیست دومین کنگره میکروب شناسی ایران (مجازی) (سال: 1400)

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خلاصه مقاله:

Background and Aim : Streptococcus group A is one of the most common and important bacteria cause pharyngitis in children and adults. In addition, the bacteria cause diseases of rheumatic fever, scarlet fever, acute glomerulonephritis, necrotizing fasciitis. Resistance of microorganisms to antibiotics is steadily rising, with reports showing that quite a number of the recognized antimicrobial agents in existence have demonstrated resistance by one species of microorganism or another. The aim of this study was to investigate the antimicrobial effect of copper nanoparticles for treatment of streptococcus group A.Methods : In this experimental study, the antibiogram test was performed to obtain the most effective antibiotic. The antibacterial activity of copper nanoparticles and penicillin was determined by Agar Dilution method. MIC and MBC of copper nanoparticles and Penicillin was determined by microdilution method.Results : Minimum bacteriocide concentration in the agar dilution method for copper nanoparticle concentration was ۱۰۰۰ ppm, for penicillin was ۶۰۰۰ppm and for mix of penicillin and copper nanoparticles was ۵۰۰ppm . Copper nanoparticles compared with penicillin was more effective to kill bacteria. the extent of the impact is less than the synergistic effect of penicillin and copper nanoparticles.Conclusion : copper nanoparticles or mix of copper nanoparticles and penicillincan be used as candidate in the treatment of infections causedby Streotoccus group A.

کلمات کلیدی:

Copper nanoparticles, streptococcus groupA ,penicillin, antibiotic resistance