

عنوان مقاله:

Antibacterial properties of Carum copticum essential oil against mutans Streptococci isolated from dog dental plaque

محل انتشار:

اولین همایش ملی کشاورزی، منابع طبیعی و دامپزشکی (سال: 1396)

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خلاصه مقاله:

Dental caries are amongst the most prevalent oral diseases both in humans and animals. Mutans Streptococci are a major cariogenic bacteria isolated from dental caries. Since these bacteria generally show antibiotic resistance patterns to common antibiotics, natural products such as plant essential oils could be a good substitute. For this study, we aimed to evaluate the antibacterial activity of Carum copticum essential oil against mutans Streptococci. Twenty dog dental plaque samples were collected and the presence of S. mutans and S. sobrinus in the samples were confirmed using both phenotypic and molecular methods. The resistance patterns of isolates were determined using eight antibiotics. The antibacterial activities of Carum copticum essential oil was evaluated based on determining MIC and MBC values and the disk diffusion method. S. mutans and S. sobrinus were isolated in ۴۰% and ۱۰%, respectively, of plaque samples. Most of these isolates were determined to display multidrug resistance patterns to the eight antibiotics evaluated. Screening of the antibacterial activity of the essence indicated that MIC₅₀ and MBC values were ۲۰ 'g/mlt and ۸۰ 'g/mlt, respectively, and that the mean - sd of zone inhibition was ۵ - ۳۱ and ۲ - ۱۰ for ۸۰ 'g/mlt and ۲۰ 'g/mlt concentrations of the essential oil, respectively. Based on our results, we suggest that, Carum copticum essential oil has antibacterial effects on mutans Streptococci and may be a useful treatment for carious lesions with bacterial etiologies.

کلمات کلیدی:

dental plaque, mutans Streptococci, Carum copticum, dog

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