عنوان مقاله:

A review on the inhibitory potential of Nigella sativa against pathogenic and toxigenic fungi

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نویسنده:

Hojjatollah Shokri - *Faculty of Veterinary Medicine, Amol University of Special Modern Technologies, Amol, Iran*

خلاصه مقاله:

Nigella sativa (N. sativa) grows in various parts of the world, particularly in Iran. It has been traditionally used as a folk remedy to treat a number of diseases. The seeds of this plant contain moisture, proteins, carbohydrates, crude fiber, alkaloids, saponins, ash, fixed oils and essential oil. The major components of the essential oil are thymoquinone, p-cymene, trans-anethole, 2-methyl-5(1-methyl ethyl)-Bicyclo[3.1.0]hex-2-en and γ-terpinene. So far, several pharmacological effects such as anti-oxidant, anti-inflammatory, anti-cancer and anti-microbial have been reported for N. sativa or its active compounds. Thymoquinone, thymohydroquinone and thymol are the most active constituents which have different beneficial properties. The oil, extracts and some of N. sativa active components possessed moderate in vitro and in vivo inhibitory activity against pathogenic yeasts, dermatophytes, non-dermatophytic filamentous fungi and aflatoxin-producing fungi. The main morphological changes of pathogenic and toxigenic fungi treated with N. sativa oil were observed in the cell wall, plasma membrane and membranous organelles, particularly in the nuclei and mitochondria. Although this review represents first step in the search for a new anti-fungal drug, the full potential of N. sativa as a fungitoxic agent has not been exploited and necessitates further investigations.

کلمات کلیدی:

Nigella Sativa, Thymoquinone, Antifungal and anti-aflatoxigenic activity, Yeast, Dermatophyte, Aspergillus