A review of the antibacterial activity of Hypericum perforatum L.


Source

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Abstract

Hypericum perforatum L. (Hypericaceae) is a perennial herb that is commonly known as St. John's Wort. The plant has been valued for its important biological and chemical perspectives and its use in the treatment of infectious diseases has been documented in ethnobotanical reports. Most recent interest in H. perforatum has focused on its antidepressant effects, and only recently has its antimicrobial activity been evaluated against a number of bacterial and fungal strains. The present review gives a comprehensive summary of the ethnobotanical uses, chemical constituents and biological effects (antibacterial and antifungal) of this species. A comprehensive account of the chemical constituents including anthraquinone derivatives (naphthodianthrones), flavonoids, prenylated phloroglucinols, tannins and volatile oils is also included. Various types of preparations, ointments, creams and extracts prepared with and compounds isolated from this species have been found to possess a broad spectrum of biological and pharmacological effects such as antidepressant effects, wound-healing, antiviral and antimicrobial activity. The antibacterial activity of crude extracts can be related to the use of the herb as a wound healer in ancient times. The sole antibacterial principle isolated to date is a tetraketone, hyperforin, also thought to be responsible for the antidepressant activity of the herb. The available literature indicates that it has a higher antibacterial activity against Gram-positive than Gram-negative bacteria, and alcoholic extracts (methanolic/ethanolic) were shown to possess more pronounced activity than aqueous extracts. Based on the chemical and pharmacological characteristics of H. perforatum, we concluded that this species has beneficial therapeutic properties and has the potential for use as an effective adaptogenic herbal remedy.

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