

Web-only Commentary

During the last two decades the interest for the medical use of *Hypericum perforatum*, or St John's Wort (SJW), for the treatment of mild to moderate depression has become increasingly popular.¹ The drug contains a number of different chemical constituents, which could contribute to its pharmacological activity. Those include hypericins, hyperforins, flavonol glycosides, and biflavones. Hypericin is a photodynamically active pigment with a variable solubility in organic solvents, whereas hyperforin is chemically unstable towards air, heat, and light, either on storage or in solution, and possibly some artifacts have been characterised. Accordingly, extract preparation from SJW poses some problems. Besides the active principle(s), the mechanism of action and pharmacology still remain to be fully understood. Although the drug prepared from alcoholic extract contains several other constituents, hypericin has for long time been reported as the only candidate responsible for the antidepressant activity. Assays with extracts devoid of hypericin but with a high content of hyperforin, as well as with pure hyperforin, showed that this metabolite can also modulate the function of various neurotransmitters involved in depression.² Pure adhyperforin has also been found to have an inhibitory potency on monoamine neurotransmitter uptake similar to hyperforin, and more polar drug constituents such as flavonoid glycosides and procyanidins have been shown to be effective in behavioural models of depression.¹ Contrasting clinical results have however been obtained in different trials with drug preparations. Given these findings, it should be advisable to compare the bioactivity of standardised and chemically defined herbal preparations. The conclusion reached by the Authors in their meta-analysis is true per se (St John's Wort might not be so effective in the treatment of depression), but it could also be erroneous due to data obtained with different experimental conditions (for example chemical composition of the extracts) used in the clinical studies included in the meta-analysis.

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References

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2. Chatterjee SS, Noldner M, Koch E, Erdelmeier C. Antidepressant activity of *Hypericum perforatum* and hyperforin: the neglected possibility. *Pharmacopsychiatry* 1998;**31**(Suppl):7–15.