

## Psychopharmacology for the Clinician Psychopharmacologie pratique

To submit questions for this regular feature, please send them to the Journal of Psychiatry & Neuroscience / Revue de psychiatrie & de neuroscience, Canadian Medical Association, 1867 Alta Vista Dr., Ottawa ON K1G 3Y6, Canada; fax 613 729-9545; [jpn.office@sympatico.ca](mailto:jpn.office@sympatico.ca). Please include details of any relevant case and your name, address, telephone and fax numbers as well as your email address.

### Are SAME and 5-HTP safe and effective treatments for depression?

A 58-year-old man's condition was stable on a selective serotonin reuptake inhibitor (SSRI) after 3 major depressive episodes in the previous 10 years. He disliked the idea of taking a drug for a long time and at one point took himself off the SSRI and started taking St. John's wort. However, the reappearance of symptoms of depression soon persuaded him to go back on the SSRI. During a trip to the United States, he discussed his situation with a number of people in stores selling health foods and vitamins. He concluded that the best natural alternatives to the SSRI were SAME and 5-HTP, which were available over the counter in the United States and via the Internet in Canada. Should he try either of them instead of the SSRI and, if so, which?

SAME is an abbreviation for S-adenosylmethionine, the major methyl donor in mammalian metabolism. A recent report from the US Agency for Healthcare Research and Quality concluded that, based on the evidence currently available, "SAME is likely more effective than placebo for the relief

of symptoms of depression." Side effects were few in the published studies, but all the studies were short term. There is no systematic evidence about long-term side effects or toxicity. The oral doses used in published studies are most often in the range of 400–1600 mg per day, but there is no evidence about the best dose. SAME is usually sold over the counter in tablets with a stated SAME content of 200 mg or 400 mg. A major problem is that SAME is very unstable at room temperature when exposed to air. It is not possible to know how much SAME might remain in tablets bought over the counter.

5-HTP is an abbreviation for 5-hydroxytryptophan, the immediate precursor of serotonin. Fewer placebo-controlled studies have been reported for 5-HTP than for SAME, but there is some evidence from small studies that it is better than placebo. It is considered a natural treatment, not only because it is present in the body, but also because it is extracted from an African plant (*Griffonia simplicifolia*). It is usually sold either as a crude extract of the plant or in pills with a stated content of 25 mg, 50 mg or 100 mg. 5-HTP, like dopa, is decarboxylated in the periphery. In stud-

ies where 5-HTP was found to be better than placebo, it was given at doses of 200 mg per day or more with a peripheral decarboxylase inhibitor. The dose needed to have an antidepressant effect when given without a peripheral decarboxylase inhibitor, as in preparations sold over the counter, is not known. However, it would probably be very expensive (because a higher dose would be required) and would cause serious gastrointestinal side effects, as a result of the serotonin formed by the action of decarboxylase in the gastrointestinal tract. As with SAME, side effects of 5-HTP in short-term use are few, but there is no evidence on long-term side effects or toxicity.

Although SAME and 5-HTP may have antidepressant effects when given in an appropriate way, there is no evidence that either compound would be effective or safe in the long term using the preparations sold over the counter in the United States and via the Internet. Neither can be recommended.

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Competing interests: None declared.

**The information in this column is not intended as a definitive treatment strategy but as a suggested approach for clinicians treating patients with similar histories. Individual cases may vary and should be evaluated carefully before treatment is provided.**