

Letter to the Editor

A *Ginkgo biloba*-Associated Paranoid Reaction

Sir: An increasing number of Americans are turning toward herbal medicines to treat their health problems. It is estimated that 25% of Americans seeking medical care use alternative therapies for their problems.¹ However, approximately 70% of these patients do not inform their physicians about their use of herbal medicines.² Herbal medicines may elicit changes in mood, thinking, or behavior,³ which may not initially be considered by a physician in the differential diagnosis. We report a case in which a patient with no previous psychiatric history developed overt paranoid ideation after treatment with *Ginkgo biloba*.

Case report. Mr. A is a 32-year-old man who, 4 weeks prior to presentation, began a regimen of *Ginkgo biloba* as a way to increase mental sharpness. He described himself as enjoying excellent overall physical health and denied any history of head injury or seizure disorder and recent illnesses. He admitted to an occasional alcoholic beverage, but disclaimed the use of tobacco, illicit substances, and caffeine. At the time of evaluation, he was taking the herbal medicine, but no prescription nor over-the-counter medications.

The day prior to admission, he began to suspect that a coworker was plotting to harm him, because Mr. A thought that somehow he had insulted the coworker. On the basis of routine questions made on a routine encounter, he also thought that his immediate supervisor was out to get him. Fearing for his safety, he refused to leave his workplace for several hours past the end of his shift. According to coworkers, he appeared scared and confused. The next day at work, he reported that a coworker had told him that "somebody on your staff is out to get you." Mr. A then began to suspect that a coworker's husband whom he had seen earlier in the day was stalking him. He went to the security office to report the stalking, which could not be substantiated. Mr. A later told his supervisor he suspected that his wife was physically abusing their children.

Given the rapidly escalating nature of events, his supervisors requested a psychiatric evaluation. The events over the preceding 36 hours were a marked variation from Mr. A's baseline, as his wife and coworkers had never previously seen him in this state. He was admitted voluntarily to the psychiatric ward. Results of initial screening, including a complete blood cell count, thyrotropin levels, chemistries, rapid plasma reagin, HIV, urine analysis, and urine drug screen, were all within normal limits or negative. His physical examination, including neurologic examination, was unremarkable, as was a review of systems. An MRI of the brain with and without contrast showed no abnormalities. Mr. A's paranoid ideation cleared within 24 hours without the use of antipsychotics. The one piece of data that was significant was that about 4 weeks earlier Mr. A had begun a regimen of *Ginkgo biloba*, 40–80 mg/day. At discharge, he was encouraged to discontinue the *Ginkgo*, which he did, and after 3 months he remains free of paranoid ideation.

Ginkgo biloba is widely used for medicinal purposes in Europe, recently receiving approval for treatment of dementia in Germany.² In North America, over \$3.24 billion were spent on herbal medications in 1997.² The uses of *Ginkgo biloba* are based on improving circulation and acting as free radical scavengers to help patients with dementia and claudication, as well as aiding restoration of circulation to the eyes and helping to decrease ringing in the ears.⁴ Side effects reported include headaches, gastrointestinal upset, and skin allergy.⁵ More serious side effects include one report each of spontaneous bilateral subdural hematoma⁵ and spontaneous hyphema.⁶ Concomitant use of *Ginkgo* with aspirin, nonsteroidal anti-inflammatory drugs, and anticoagulants should be avoided.² Miller² points out that a neurotoxin found in both the leaf and seed of the *Ginkgo* plant may interfere with the effectiveness of anticonvulsants. The coadministration of *Ginkgo* and anticonvulsants is ill advised.² In our patient, it is not entirely clear by what mechanism *Ginkgo* contributed to the paranoid reaction; however, it may be due to the neurotoxins in *Ginkgo*.

This case highlights several important points for all physicians regardless of specialty. The first is that more and more Americans seeking health care services may be taking herbal medicines, yet they are not likely to reveal this to their physician. Thus, physicians must inquire about their use, possibly when asking about prescription medications and over-the-counter agents. Equally important for clinicians to keep in mind is that herbal medications can have deleterious side effects as well as drug-drug interactions.

Conclusions and opinions expressed are those of the authors and do not necessarily reflect the position or policy of the U.S. Government, Department of Defense, Department of the Army, or the U.S. Army Medical Command.

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