

noring these coexisting psychiatric disorders can interfere with the success of the whole palliative care program.

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**THE AUTHORS REPLY:** We appreciate the comments of Drs. Gothelf and Cohen regarding our review. Mood and anxiety disorders certainly can complicate the course of life-threatening conditions of childhood. We have successfully treated children who have depression and life-threatening or life-limiting illnesses with tricyclic antidepressants<sup>1</sup> (especially in pediatric patients with coexisting neuro-

pathic pain, sleep disturbances, or both) or methylphenidate<sup>2</sup> (especially in children with opiate or disease-related somnolence). However, the empirical support for the use of selective serotonin-reuptake inhibitors is lacking, suggesting a path for future research in the field.

Providing psychiatric care for every child who is coping with a chronic illness is certainly desirable, but as indicated in our review, the demographic features of life-threatening illnesses, as well as the current state of reimbursement for even basic palliative services in the United States, might preclude access for some. The generalist should therefore be familiar with basic treatment options for mood and anxiety disorders. We appreciate having this oversight brought to our attention.

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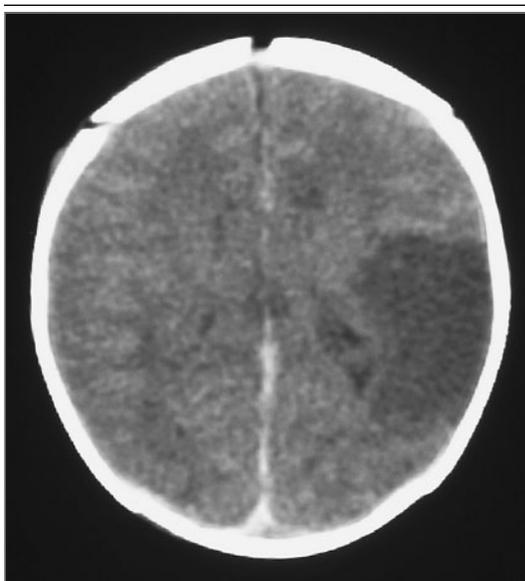
## Blue Cohosh and Perinatal Stroke

**TO THE EDITOR:** With the recent decision of the Food and Drug Administration to ban the sale of ephedra in the United States, a broad discussion of the uses, risks, and regulation of herbal preparations has been kindled in the news media. We report a case that raises similar issues with potentially broad implications for the use of other herbal preparations that have a vasoconstrictive effect.

A female infant weighing 3860 g was born at just over 40 weeks' gestation to a healthy 24-year-old woman (gravida 2, para 0). The obstetrician reportedly had advised the woman to drink a tea made from blue cohosh (*Caulophyllum thalictroides*). Induction of labor is a recognized effect of this herbal supplement,<sup>1</sup> and the tea was effective. A cesarean section was performed after a failed attempt at vaginal delivery. The infant had focal motor seizures of the right arm, which began at 26 hours of age, and which were controlled with phenobarbital

and phenytoin. A computed tomographic (CT) scan obtained when the infant was two days of age showed an evolving infarct in the distribution of the left middle cerebral artery (Fig. 1). The results of thrombophilia studies to assess an innate tendency for excessive blood clotting in the infant were either negative or normal and the family history was negative for embolic or thrombotic disease. Urine and meconium were positive for the cocaine metabolite benzoylecgonine on screening by immunoassay, and these results were confirmed by gas chromatography–mass spectrometry. Testing of the contents of the mother's bottle of blue cohosh and the contents of a sealed bottle of a different preparation of the herb gave the same results.

These toxicologic studies suggest that either benzoylecgonine is a metabolite of both cocaine and blue cohosh or the blue cohosh was contaminated with cocaine. The preparation called "Inca tea" con-



**Figure 1.** Axial Section of a Non-Contrast-Enhanced Cranial CT Scan Obtained on the Infant's Second Day of Life.

The low-density region in the distribution of the left middle cerebral artery indicates an ischemic infarct.

tains coca leaves and can also cause a positive test for cocaine on toxicologic screening.<sup>2</sup> Maternal cocaine use is a well-known cause of perinatal stroke.<sup>3</sup> In addition, blue cohosh contains the glycosides caulosaponin and caulophyllosaponin, which can

cause uterine contraction and coronary-artery constriction in the rat and dose-dependent contraction of a bovine and porcine carotid-artery preparation.<sup>4</sup> Also present is the alkaloid methylcytisine, a nicotinic agonist. The case of a neonate who had an acute myocardial infarction after maternal ingestion of an excessive dose of blue cohosh has been reported.<sup>5</sup> Although the earlier report does not prove that blue cohosh was the cause of this infant's stroke, it does lend support to the presence of a pathophysiologic mechanism. The relationship between the herbal preparation and the infant's condition is striking and worthy of further study.

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