

## Letters to the Editor

---

### Involvement of Family Members in Treatment of Depressed Individuals

**Sir:** The negative impact depression has on family relations is mentioned several times by Pincus and Pettit in their recent EDITOR'S CHOICE supplement article on chronic major depression.<sup>1</sup> However, nowhere in the discussion of treatment in the articles that follow in that special supplement on depression is it pointed out that it is vitally important to involve family members, employers, and others who have frequent contact with the depressed person in the treatment plan.

Since the *Companion* addresses family physicians, emphasis needs to be placed on the preventive work a family doctor can perform for the relatives of depressed patients. Chronic depressive illness can be classified as contagious in that family members as well as coworkers frequently will become depressed secondary to the stress of living and working with a depressed person. On reviewing the symptoms of chronic depression—anhedonia, insomnia, irritability—it becomes clear how difficult it would be to live with someone thus afflicted. Talking to the family of any depressed person and explaining—demystifying—the illness, illustrating how the disease affects those involved with the patient and why the patient acts the way he or she does, always lifts guilt, decreases anger, and facilitates coping with the difficulties chronic depression presents every day. Families need to understand the etiology, signs and symptoms, treatment, and prognosis of this illness, as well as the effect depression has on relationships. The primary doctor is the logical person to dispense this information.

When given simple examples of how each of the symptoms of major depression can result in rejection, anger, frustration, and hopelessness, family members will display a smile of recognition. The explanation will elicit responses such as this one from a wife and mother: "I found a new recipe and used it to bake him a beautiful birthday cake. He pushed it away and said: 'You know I don't like chocolate!' He has always eaten chocolate cake! My feelings were hurt, and I was angry. He didn't even say thank you. He had been really down and I was trying to cheer him up." The teenager in the family chimes in, "He always sleeps till noon, his business is slipping because he never gets to work till after lunch. If I sleep in on Saturdays he wakes me up, even if I don't have anywhere to go. If I ask him to help me with my math homework, he doesn't concentrate and gets me all mixed up. He used to be good at math." The younger brother of this teenager states, "He never plays ball with me anymore, he always says he is tired. He can't decide anything, not even what to wear. He is no fun to be around." The family eventually loses patience and rejects the depressed person, who then becomes more depressed because he thinks that nobody cares about him or loves him—a vicious circle!

Each one of these family members is suffering. They question themselves: What have I done or not done to contribute to the withdrawal, the unhappiness of the person I love? How can I help that person? The lack of success in healing the depression leads to burdens of guilt, rejection, and anger, and eventually depression. The joy and energy most of us feel every day is at risk and has to be defended when living with chronic pessimism. A family physician can help families understand and accept chronic depression as an incurable illness, which they did not cause and cannot improve. This preventive work may decrease the number of secondary depressions among those close to the chronically depressed individual and make it possible for family members to live with and come to terms with a tragic situation.

#### REFERENCE

1. Pincus HA, Pettit AR. The societal costs of chronic major depression. *J Clin Psychiatry* 2001;62(suppl 6):5-9

**Renate G. Justin, M.D.**  
Retired Family Physician  
Fort Collins, Colorado

---

### Treatment of Methamphetamine Cravings With Bupropion: A Case Report

**Sir:** Methamphetamine abuse is a concern for physicians treating patients in a variety of settings, ranging from emergency rooms to mental health clinics, due to its wide range of psychological and physical effects. The use of methamphetamines rose significantly in the 1990s mostly in the western United States<sup>1</sup> but also in the areas along the United States-Mexico border.<sup>2</sup> Among the effects of methamphetamine are a sense of euphoria, increased energy, power, and control, which have reinforcing effects contributing to the highly addictive nature of methamphetamine.<sup>2</sup> These properties along with the low cost and availability of methamphetamine may partly explain the craving associated with its use.<sup>3</sup> The cravings can be overwhelming for patients, who can experience very serious cardiovascular, central nervous system, and pulmonary symptoms leading to increased rates of emergency room visits, as were seen in the 1990s.<sup>4</sup> In the following case, we discuss the promising use of bupropion to diminish cravings in a patient diagnosed with methamphetamine dependence.

**Case report.** Mr. A, a 31-year-old male Asian Pacific Islander, was referred to a drug and alcohol rehabilitation

program following an uneventful 6-day inpatient detoxification for methamphetamine intoxication. He met DSM-IV criteria for methamphetamine dependence, which had lasted for 6 years and consisted of smoking, usually in 2-day binges. He would go through, on average, two tenths of a gram, although at times up to half of a gram, during a binge; for the most part, binges occurred on weekends. He denied any intravenous use and denied any previous psychiatric hospitalizations or medical problems. He had never participated in any type of rehabilitative treatment in the past and denied that he had ever sold any illicit substances. He noted irritability and concentration problems for several days after bingeing, which had contributed to occupational impairment.

Mr. A agreed to participate in an outpatient rehabilitation program consisting of weekly group sessions and individual sessions to assist him in relapse prevention and developing a healthy lifestyle and encouraging his attendance of Narcotics Anonymous meetings, working through the 12 steps of the program, and securing sponsorship. As part of his treatment, he submitted to random weekly drug screens. Mr. A underwent a psychiatric evaluation and neuropsychologic testing to evaluate any possible cognitive deficits stemming from 6 years of methamphetamine abuse. The battery consisted of the Trailmaking Series (A + B),<sup>5</sup> the Wide-Range Achievement Test, 3rd edition (WRAT-R),<sup>6</sup> the Wechsler Adult Intelligence Scale-Revised,<sup>7</sup> the Short Category Test,<sup>8</sup> the Wechsler Memory Scale-Revised,<sup>9</sup> and the Minnesota Multiphasic Personality Inventory-Revised (MMPI-2).<sup>10</sup> The results of the MMPI-2 showed that scores on all addiction potential and addictive practice scales were significantly elevated. There was little evidence of any brain damage apparent in his testing record. Both memory and concentration were above average, with no deficits in the ability to solve complex problems. He did show evidence of impulsiveness and a possible learning disability suggested by his poor academic achievement scores on the WRAT-R.

Early on in treatment, the patient related a strong urge to use methamphetamines, scoring a 25 out of 30 on the Penn Craving Scale.<sup>11</sup> Based on earlier work by one of the authors (T.R.B.)<sup>12</sup> in treating cravings associated with cocaine cessation, a trial of bupropion sustained release was started at 150 mg once a day for 3 days and then increased to 150 mg b.i.d. Over the next 3 weeks, his cravings decreased and his score on the Penn Craving Scale decreased weekly to a low of 4. Mr. A was able to actively participate in his recovery as well as improve his work performance. His weekly urine drug screens have all been negative for illicit substances, and he has remained substance-free at 3 months.

Methamphetamines are purported to exert their central nervous system effects by stimulating the release of dopamine and norepinephrine in the brain,<sup>2</sup> a mechanism similar to that of cocaine.<sup>13</sup> The incentive reinforcement system seems to be primarily linked to dopamine systems, which may account for the addictive potential of methamphetamines.<sup>14</sup> Because of bupropion's unique property of involving inhibition of neuronal reuptake of dopamine (possible reinforcement of the reward system),<sup>15</sup> it was chosen to assist Mr. A with his cravings for methamphetamine. A review of the literature revealed that dopaminergic agonists such as amantadine and bromocriptine have been used to decrease depressive reactions in withdrawal from amphetamines and that tricyclic antidepressants have been used to decrease dysphoric symptoms in withdrawal.<sup>14</sup> Lobeline is currently being investigated in regard to its ability to inhibit the neurochemical and behavioral effects of amphetamines,<sup>16</sup> and the National Institute of Drug Abuse (NIDA) is actively pursuing research to treat stimulant users.<sup>17</sup> However, to my

knowledge, the use of bupropion to decrease methamphetamine cravings has not been reported, but bupropion has been used with some success in treating cocaine cravings.<sup>18,19</sup> In this case, bupropion appears to be a promising agent, especially when pharmacotherapy tends to be underutilized in substance abuse treatment.<sup>20</sup> We advocate that caution be used when interpreting single case results and that bupropion is not a substitute for a comprehensive multifaceted treatment approach, but it certainly may prove to be a valuable adjunct.

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.

## REFERENCES

1. Wermuth L. Methamphetamine use: hazards and social influences. *J Drug Educ* 2000;30:423-433
2. Glittenberg J, Anderson C. Methamphetamines: use and trafficking in the Tucson-Nogales area. *Subst Use Misuse* 1999;34:1977-1989
3. Albertson TE, Derlet RW, Van Hoozen BE. Methamphetamine and the expanding complications of amphetamines. *West J Med* 1999; 170:214-219
4. Brecht ML, von Mayrhauser C, Anglin MD. Predictors of relapse after treatment for methamphetamine use. *J Psychoactive Drugs* 2000;32:211-220
5. Reitan RM. *Manual for Administration of Neuropsychological Test Batteries for Adults and Children*. Tucson, Ariz: Ralph M. Reitan; 1979
6. Jastak S. *The Wide-Range Achievement Test-Revised*. Wilmington, Del: Jastak Associates; 1984
7. Wechsler D. *Wechsler Adult Intelligence Scale-Revised*. New York, NY: Psychological Corp; 1986
8. Wetzel LC, Boll TJ. *Short Category Test, Booklet Format*. Los Angeles, Calif: Western Psychological Services; 1986
9. Wechsler D. *The Wechsler Memory Scale-Revised*. New York, NY: Psychological Corp; 1987
10. Butcher JN. *The Minnesota Report: Adult Clinical System MMPI-2*. Minneapolis, Minn: University of Minnesota Press; 1989
11. Flannery BA, Volpicelli JR, Pettinati HM. Psychometric properties of the Penn Craving Scale. *Alcohol Clin Exp Res* 1999;23:1289-1295
12. Harazin JS, Berigan TR. The use of bupropion in reducing cravings after the cessation of cocaine use. *Substance Abuse* 1995;16:181-182
13. Gold MS, Miller NS. Cocaine (crack). In: Lowinson JH, Ruiz P, Millman RB, et al, eds. *Substance Abuse: A Comprehensive Textbook*. 3rd ed. Baltimore, Md: Williams & Wilkins; 1997:166-181
14. Murray JB. Psychophysiological aspects of amphetamine-methamphetamine abuse. *J Psychol* 1998;132:227-237
15. Kranzler HR, Amin H, Modesto-Lowe V, et al. Pharmacologic treatments of drug and alcohol dependence. In: Miller NS, Swift RM, eds. *The Psychiatric Clinics of North America: Addictive Disorders*. Philadelphia, Pa: WB Saunders; 1999:401-423
16. Miller DK, Crooks PA, Teng L, et al. Lobeline inhibits the neurochemical and behavioral effects of amphetamine. *J Pharmacol Exp Ther* 2001;296:1023-1034
17. Rawson RA, McCann MJ, Hasson AJ, et al. Addiction pharmacotherapy 2000: new options, new challenges. *J Psychoactive Drugs* 2000;32:371-378
18. Margolin A, Kosten T, Petrakis I, et al. An open pilot study of bupropion and psychotherapy for the treatment of cocaine abuse in methadone-maintained patients. *NIDA Res Monogr* 1991;165:367-368
19. Harazin JS, Berigan TR. The use of bupropion in reducing cravings after cessation of cocaine use. *Subst Abuse* 1995;16:181-182
20. Gottschalk PC, Jacobsen LK, Kosten TR. Current concepts in pharmacotherapy of substance abuse. *Curr Psychiatry Rep* 1999;1: 172-178

**Timothy R. Berigan, D.D.S., M.D.**

**Michael L. Russell, Ph.D.**

William Beaumont Army Medical Center  
El Paso, Texas