Current PSYCHIATRY

CASES THAT TEST YOUR SKILLS

Diet pills purchased online appear to be making Ms. P paranoid, but routine urine screens are negative. What's causing her delusional episodes?

The skinny on one patient's psychosis

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PRESENTATION 'THEY'RE STALKING ME'

Ms. P, age 30, fears she is being stalked and is too terrified to be home alone. Worried, her ex-boyfriend calls police, who bring her to the emergency room

At the ER, Ms. P reports that surveillance cameras have been planted inside her house, that men often stand on her roof and watch her go to her car, and that men constantly are stalking her. She also hears voices and reports frightening peripheral visions of "outsiders." The ER doctor consults the psychiatry service and orders laboratory tests, but all results—including urine drug screen findings—are negative.

Ms. P says she has been sleeping 3 to 4 hours nightly. She acknowledges depressed mood and decreased appetite, leading to a 10-lb weight loss over 1 month. She says she has felt depressed off and on for several years but has received no treatment for her mood symptoms. We admit her to the psychiatric unit to treat her acute-onset psychosis.

Lately, Ms. P's life has been difficult. A college sophomore, she is failing all her classes. She was recently fired from her job as a case manager because of inappropriate behavior, such as buying gifts for the children she was managing and taking them for haircuts without their parents' permission. Several months ago, she broke up with her boyfriend of 6 years. In addition to these stressors, she recently moved into an apartment and for the first time was living on her own.

Medical history. Ms. P has no major medical problems. Her mother has battled alcohol and drug dependence and depression but to Ms. P's knowledge has never experienced psychosis. Ms. P, who admits that she binge drinks once or twice monthly, meets DSM-IV-TR criteria for alcohol abuse disorder. She denies using illicit drugs but admits that she regularly takes "energy pills" purchased over the Internet because she cannot wake up without them.

Physical exam is normal, but Ms. P's body mass index (BMI) is 18 kg/m^2, slightly below normal (height: 5 feet 8 inches; weight: 117.5 lb).

continued

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Table

Three causes of psychosis—and different characteristics of each presentation

Characteristic	Mood disorder with psychosis	Schizophrenia	Substance-induced psychosis
Acute onset	x	-	x
Delusions	x	x	x
Disorganized or catatonic behavior	x	x	x
Family history of psychosis	x	x	_
Good premorbid function	x	_	x
Hallucinations	x	x	x
Negative symptoms	x	x	x
Personal history of psychosis	x	x	_
Prodromal and residual symptoms	_	x	_

weight loss could have signaled anorexia nervosa, but no other signs were present and her history does not support the diagnosis.

RELAPSE CAMERAS 'OFF' FOR 1 WEEK

Five days after admission, we discharge Ms. P as her psychosis has improved significantly.

Later that day at the outpatient clinic, Ms. P requests a medication change, voicing fears about haloperidol's long term side effects and mirtazapine-induced weight gain. Risperidone, 2 mg nightly, and citalopram, 20 mg/d, are started instead.

One week later, Ms. P's parents again bring her to the ER after police find her sitting in her car, confused and paranoid. She complains that cameras have been set up in her car, and she responds to voices when alone.

On the way to the ER, Ms. P tries to jump from the moving car. She assaults her mother as she stops her from jumping.

Blood pressure is 155/92, heart rate is 82 beats per minute, respiratory rate is 18 breaths per minute, and temperature is 96°F.

On interview, Ms. P admits that she stopped risperidone and citalopram and restarted Xenadrine and phentermine. She also reports orthostasis from risperidone. We again admit her to the acute-care psychiatric unit and restart haloperidol, 1 mg/d, and citalopram, 20 mg/d.

The authors' observations

Although we knew Ms. P was abusing diet pills, we could have easily ruled out drug-induced psychosis based on her three negative urine drug screens.

The clinical course of Ms. P's psychosis, however, closely followed her diet pill use—emerging soon after starting phentermine and remitting soon after stopping it. Also:

- she was taking 2 to 3 times the recommended dosage of phentermine for several months. Phentermine is indicated for short-term (a few weeks) treatment of exogenous obesity (BMI ≥ 27 kg/m^2 in persons with hypertension, diabetes, or hyperlipidemia; BMI ≥ 30 kg/m^2 in persons without these risk factors)[1]
- her BMI was below normal
- her psychosis remains in remission without use of an antipsychotic.

These factors, combined with the potentiat-

Box

Weight-loss obsession, Internet drive search for the perfect body

Use of prescription and over-the-counter weight-loss products is alarmingly common. American culture values the "perfect body," and the Internet has made appetite suppressants and weight-loss agents more available. Users can conveniently purchase large quantities of OTC weight-loss aids online.

In one multi-state survey,[4] 18% of women and 8% of men who were trying to lose weight reported using nonprescription weight loss products. Also:

- 28.4% of obese women (defined as BMI ≥30 kg/m^2) reported using OTC diet pills, as did nearly 8% of women at normal weight (BMI <25 kg/m^2)
- concomitant nonprescription and prescription pill use was often reported.

ing effects of these stimulating agents, apparently led to psychosis.

Stimulant medications such as amphetamines and stimulant drugs such as cocaine can produce psychotic symptoms including paranoid delusions, hallucinations, and bizarre behavior. Farrell and colleagues[5] found that cannabis and psychostimulants increase the risk of psychosis.

Genetic load could have influenced Ms. P's response to diet pills, but we have no information to support a genetic predisposition. Also, we saw no clear family history of a formal thought disorder.

How can clinicians most effectively detect stimulant abuse?

- **urine drug screen**
- **laboratory blood testing**
- **both methods combined**

The authors' observations

Urine drug screens can pick up the main drug classes and often their derivatives, but this testing method is limited.[2]

Urine tests employ assays with semi-quantitative results. A urine sample may contain an abused substance but at levels below the cutoff. Also, because no correlation exists between cutoff levels and drug effect, a patient can have drug-induced symptoms but a negative urine drug screen. This makes detecting a suspected but unknown drug of abuse extremely difficult.

A routine urine screen can detect phentermine and other stimulants, but the phentermine level needed for a positive assay is 50 times that of pure amphetamine.[2] Ms. P's last urine drug screen showed an amphetamine level just under the cutoff.

Use of cocaine—undetectable in urine 3 to 4 days after use—could be considered when drug-induced psychosis is suspected. Ms. P's psychosis correlated with her phentermine relapse, however, and both she and her ex-boyfriend denied that she uses street drugs.

Obtain specific drug levels when you suspect medication abuse. Request gas chromatography or mass spectrometry to provide a quantitative result and confirm medication abuse.[2,3] These tests would have been appropriate for Ms. P once her ex-boyfriend revealed the diet pill abuse.

DETECTING DIET PILL ABUSE

Use of weight-loss supplements and appetite suppressants is alarmingly common (*Box*). Many patients suffer adverse effects from diet pills but do not tell their doctors they are using them because they:

- fear the physician will scold them for

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Related resources

- Supplement Research Foundation. Supplement reviews. www.tsrf.com/supplements.htm
- Devan GS. Phentermine and Psychosis. *Br J Psychiatry 1990*;156:442-3.
- Cleare AJ. Phentermine, psychosis, and family history. *J Clin Psychopharmacol* 1996;16:470-1.
- Hoffman BF. Diet pill psychosis. *CMAJ* 1977;116:351-5.

DRUG BRAND NAMES

Citalopram • Celexa
Haloperidol • Haldol
Mirtazapine • Remeron
Phenteramine • Adipex
Risperidone • Risperdal

DISCLOSURE

Dr. Khan is a speaker for Pfizer and Wyeth Pharmaceuticals.

Drs. Tan and Williamson report no financial relationship with any company whose products are mentioned in this article, or with manufacturers of competing products.

circumventing his or her advice by obtaining medications online
- sense that obtaining diet pills over the Internet might be illegal
- do not realize the doctor needs to know about nonprescription drug use
- or fear the physician will tell them to stop taking the drug.

On the other hand, physicians often do not ask about diet pill use. They may perceive OTC appetite suppressants and weight-loss agents as harmless, or—as with Ms. P—may not suspect diet pill use because the patient is not overweight.

Weight-loss medication overuse can cause psychosis and other negative effects. Urine screens may not detect abnormally high levels of these agents, and patients often do not admit to using them. Ask family members and significant others to confirm the patient's medication use history. Order gas chromatography or mass spectrometry to check drug levels.

Bottom Line

Rapid or unexplained weight loss, hypertension, tachycardia, tremors, psychomotor agitation, and hyperalertness could signal diet pill abuse. Emotional lability, such as euphoria during a high and fatigue and dysphoria during withdrawal, also could be indicative. Collateral information from family members or significant others can narrow the differential diagnosis.

Cognitive-behavioral therapy (CBT) can help Ms. P, who claimed she used diet pills to boost her energy. CBT would challenge her unrealistically high goals, teach and explain the consequences of drug use, and offer support to reinforce abstinence from diet pills. Educating patients about potential adverse drug effects also is essential.

CONCLUSION BACK TO BASELINE

After 10 weeks, Ms. P's condition returns to baseline. She starts a new job and abstains from diet pills. Her thought process and cognition improve significantly, and she reports no depressive symptoms at her most-recent visit. She maintains her weight at 139 lb. BMI is 21.1 kg/m^2 (normal).

Haloperidol is slowly tapered across 2 weeks with no return of psychosis. Although Ms. P wants to stop haloperidol, we taper instead to guard against psychotic relapse. She continues to take citalopram, 20 mg/d, to prevent depressive symptom re-emergence and is receiving supportive psychotherapy to aid her relapse prevention.

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3. Crosby RD, Carlson GA, Specker SM. Simulation of drug use and urine screening patterns. *J Addict Dis* 2003;22:89-98.
4. Blanck HM, Khan LK, Serdula MK. Use of nonprescription weight loss products: results from a multistate survey. *JAMA* 2001;286:930-5.
5. Farrell M, Boys A, Bebbington P, et al. Psychosis and drug dependence: results from a national survey of prisoners. *Br J Psychiatry* 2002;181:393-8.