

*An emergency room resident from delirium  
decides a doctor to challenge just how delirious*

**Y**our admission is Evelyn Warwick, little old lady in distress.” The emergency room resident motioned toward a curtained area at the far end of the ward. “Completely delirious.”

“Got it,” I said. At the time I was a medical resident at a New York City public hospital, supervising an intern and a medical student. I knew that delirium, an acute confusional state, could result from just about any type of acute illness, or it could be a side effect of medication. And yet, I explained to my team, you could often guess the cause simply from the type of patient.

We all agreed about Mrs. Warwick’s probable diagnosis. An elderly woman with delirium at a public city hospital was likely to be a nursing home patient with pneumonia or a urinary tract infection. She might be dehydrated, or maybe she’d had a stroke or a heart attack.

When I pulled back the curtain, I did a double take. Evelyn Warwick was a handsome woman with a neat gray bob like an elementary school principal, not a typical city hospital patient. Her pink pajamas glowed against the starched white sheets. Mr. Warwick, a silver-haired man in a tweed jacket, stroked her forehead with a damp cloth.

I introduced myself and the team and asked how she was feeling. She opened her watery blue eyes and stared far into the distance. “I don’t know where I am!” she murmured in a clipped British accent. “I woke up and my head exploded.” She looked around the room in a panic and started to weep. “Where am I? What’s all this?”

Her husband patted her hand. “We were on the QE2, darling. Four days at sea since we left Southampton. We docked in New York yesterday, remember? You woke up in the hotel.... You were so upset.” Mrs. Warwick closed her eyes and sighed.

“At 3 in the morning, she bolted up and woke me in a fright,” her husband continued. “She didn’t know where she was.”

She had no medical history of note and took only a daily vitamin. She didn’t drink, Mr. Warwick told us, no more than a glass of white wine with dinner. Except for a mild fever and a slightly rapid heart rate, her physical exam was normal. Her blood and urine tests, so far, were unremarkable: she wasn’t anemic, her electrolytes were fine, and she wasn’t dehydrated. An electrocardiogram showed no evidence of a heart attack. She’d had a normal chest X-ray, and a CT scan of her brain hadn’t shown any sign of a stroke or tumor. The initial results of her spinal tap were normal too.

I laid my hand on hers, which was warm and sweaty and jittery, and asked her if she had felt any different in the last few days. Her eyes popped open and darted back and forth. “I don’t know, I don’t know where I am!” she said, her face creased with worry.

“You’re at a hospital,” I reminded her. “We’re going to help you feel better, I promise.”

Mr. Warwick scratched his head. “She did say she felt a little under the weather. Nothing out of the ordinary.” He watched his wife turn her head from side to side and ask again where she was. “Last night we had a late dinner at the hotel,” he told me. “She had some broth, a little salad, half a glass of wine. She didn’t have

much appetite, a bit of a headache. Didn’t think much of it, after such a long journey.”

So far, her symptoms and test results hadn’t given up any clues. I left the room, hoisted a few textbooks over to the doctor’s station, and started to read. We’d ruled out the most common causes of delirium, but I wanted to make sure I wasn’t missing anything.

Then I came upon a syndrome I’d never heard of before: transient global amnesia. TGA, I read, usually occurs in older people and often produces a brief period of anterograde amnesia, the inability to form new memories. Patients often ask about the date and place again and again, and they sometimes experience headache and nausea. Even though TGA is rare—each year, it affects up to 32 per 100,000 people over age 50—and is typically brought on by strenuous activity, I realized it might explain Mrs. Warwick’s symptoms. Maybe the long voyage had been too much for a 65-year-old woman. If this really was TGA, she should be better within 24 hours.

I paged my intern and student and we went to get a snack from the vending machines. I told them about TGA and they agreed that the diagnosis made sense. But when we got back to the ER, a nurse waved us over urgently. “I just paged you,” she said. “Mrs. Warwick’s temperature spiked to 103 and she’s hallucinating, very agitated. I don’t know where the husband is.”

We rushed back to the bedside. So much for transient global amnesia. Mrs. Warwick was thrashing around on the bed as though possessed. Sweat poured down her face, and her blood pressure had skyrocketed. “She just pulled out her IV,” the nurse explained. “She needs restraints, OK?”

“Fine.” My heart thudded in my ears. I couldn’t think. Mrs. Warwick cursed and hollered gibberish as the nurse wrapped restraints around her wrists and tied them to the bedrails.

Someone was tapping my shoulder. “Shouldn’t we give her some benzos?” Jeff, the medical student, was asking. I took a deep breath and refocused. I explained that in most cases of delirium, benzodiazepines—antianxiety medicines that include diazepam (Valium)—can actually worsen symptoms. Instead, I asked the nurse to give her haloperidol (Haldol), an antipsychotic that can safely calm a delirious patient.

The Haldol wouldn’t take effect for at least 30 minutes. I feared that Mrs. Warwick would go into cardiac arrest or have an arrhythmia or a stroke or be overwhelmed by infection, and I didn’t know what else to do. We were going nowhere with our diagnoses while my patient was plummeting downhill.

Leah, the intern, interrupted my frantic thoughts. “I keep thinking this looks like DT,” she said. “Though I know it can’t be...”

**DT is an abbreviation for delirium tremens**, a life-threatening state that affects 5 percent of people withdrawing from alcohol. People with DT are disoriented, sweaty, and febrile, and they sometimes hallucinate. Dangerous cardiac arrhythmias and respiratory failure can lead to death. A century ago, 37 percent of people with DT died; nowadays, due to better treatment, it is about 5 percent.



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"You can't have DT with one glass of wine a day," I said, my mind furiously trying to piece things together.

Mr. Warwick walked back in at that moment. He was shocked to find his wife tied to the bed, wailing. He demanded to know what was going on. I gulped and hoped what I was about to say wouldn't offend him. "I know you said your wife didn't drink much, but she looks like she might be withdrawing from alcohol. Is it possible that she drinks more than you told us?"

He stared at me, his face blank, and I started to apologize. But then he lifted a hand. "Truth is, she drinks a lot." Tears formed in his eyes. "Much more in the last three years, since she retired. She drinks when I'm at work. She thinks it's a secret. I thought she'd stop on the cruise, since we'd be together all the time. I didn't know stopping could make her so ill."

Now things were starting to make sense. "So she was drinking a lot, and then on the cruise she was having only one drink a day, for the last four days." I was thinking out loud. "She felt poorly because she was starting to go into alcohol withdrawal. And now she's in delirium tremens."

I turned to my team and the nurse. "We need to get benzos on board—now."


The nurse hurried off, and the medical student looked confused. "But you said they were dangerous in delirium."

I explained that in alcohol withdrawal syndromes, benzodiazepines can be lifesaving. Neurons in the brain strive to maintain a balance (homeostasis) between sedation and excitement. There are two main types of neurotransmitters involved. GABA is inhibitory and causes sedation; glutamate, its opposite, is excitatory. Specific receptors on the neurons detect GABA (the GABA receptor) and glutamate (the NMDA receptor). Alcohol is sensed through the GABA receptor. Like GABA, it enhances sedation. In a chronic drinker, the presence of all that sedating alcohol in the body means that the neurons don't need so many GABA receptors. They cut down on those and create more excitatory NMDA receptors.

When a chronic drinker abruptly stops drinking, the balance is thrown off. With fewer inhibiting GABA receptors and more excitatory NMDA/glutamate receptors, the neurons become overstimulated. In mild alcohol withdrawal, a person will become jittery, anxious, and irritable; in DT, the person's system will go haywire. Benzodiazepines, like alcohol, work at the GABA receptor and induce a sedated and safer state. The benzodiazepines can then be tapered off gradually while the brain resets its balance.

When Mrs. Warwick left the hospital five days later, she was back to normal, minus any plans to drink alcohol ever again. "Scared straight," the medical student remarked after the Warwicks headed back to England. That would be great, I told him, but I knew she would probably drink again if she didn't seek help.

The key to preventing DT in any hospitalized patient with a drinking problem is giving benzodiazepines as soon as possible. But doing so depends on our ability to recognize a patient at risk. Too often we overlook the diagnosis in people who don't look like alcoholics—especially older women, up to 8 percent of whom have an alcohol problem.

Sometimes a missed drink, whether missed by the drinker or by the doctor, can be a matter of life and death. 

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Anna Reisman is an internist in West Haven, Connecticut. The cases described in Vital Signs are real, but names and certain details have been changed.