

Letter to the Editor—Fire Setting in a Patient with Hyperglycaemic Delirium

Sir:

This letter describes the case of a 42-year-old male who set fire to his own property while suffering from hyperglycemic delirium. He was examined 2 days later. He explained that approximately a week before the incident, he started to feel listless and depressed. After returning home on the evening in question, he said he saw a number of enormous gray rats about "half the length of his arm" and which he recognized as "human eating rats." He managed to escape from the house, ripping off his clothes and washing himself at a street standpipe, thinking that his smell had attracted the rats. He returned home and locked every door and window, but they reappeared. Again, seized by fear, he placed some newspapers on a couch and lit them believing that the smoke would drive the rats away. As the fire spread, he noted that the rats were fleeing but also realized that he could not escape. He fled by lurching through a window and fell to the ground. He was taken to the hospital by relatives who had seen the fire.

There was no personal history of mental illness. He developed Type 1 diabetes mellitus when he was 23 years old and was reportedly using 18 U of Humulin and sometimes self-medicated with hypoglycemic agents. However, there was poor compliance with the medication regimen and the patient admitted that he had not used any medication for 2 weeks. There was no recent history of alcohol or drug use. He smoked about 10 cigarettes daily. For court purposes there was also two follow-up sessions.

On examination, he was a thin, unkempt man, poorly dressed with craggy clothing, and edentulous in the upper jaw. There were first degree burns on his arm and neck from fleeing the house, as well as minor scratches from falling through the glass. His mental status was such that he was orientated in time, person and place, cooperative, logical, and coherent. There were no cognitive deficits with anterograde and retrograde memory, judgment, insight, and understanding intact. Mood and affect were normal and there were no hallucinations or delusions. Additionally, there were no clinical features suggesting epilepsy, psychosis, a dissociative state, or secondary gain. Apart from a HgbA1C reading of 8.5% (normal less than 6.5%) and a blood glucose of 495 mg/dL, there were no abnormal laboratory findings. Two days after treatment with 20 U of Humulin daily the blood glucose was 295 mg/dL.

Our conclusion was that the patient was suffering from hyperglycemic delirium at the time of the fire and that this diagnosis was entertained because of the absence of other significant findings. The diagnosis of hyperglycemia was supported by the self-admission of non-medication, elevated HgbA1C and blood glucose. Following treatment with Humulin there was a spontaneous recovery. It might be argued that a blood glucose of 495 mg/dL is insufficient to cause hyperglycemic delirium, but it should be noted that in all likelihood this was reduced because of the physical exertion associated with combating the giant rats.

This case highlights the less commonly described hyperglycemic delirium. Hyperglycemia has been reported (1–3) to result in delirium with delusions, delusional misidentifications, and hallucinations affecting the central nervous system. In this case there was no primary interest in setting the fire for the purpose of excitement, sexual arousal, and the release of tension or the desire to be a hero.

References

1. Kaplan S. Delirium, dementia and amnesic and other cognitive disorders and mental disorders, due to a mental condition. In: Cancro R, editor. Concise textbook of clinical psychiatry. Philadelphia, PA: Lippincott, Williams & Wilkins, 1996:45–50.
2. Lautenschlager NT, Forst H. Organic psychosis: insight into the biology of psychosis. *Curr Psychiatry Rep* 2001;3:319–25.
3. Matz R. Management of the hyperosmolar hyperglycemic syndrome. *Am Fam Physician* 1999;60:1468–76.

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