A Funny Patient

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We describe a patient with 'funny' behaviour and neurologic symptoms, presenting with uncommon symptoms of a common disease.

CASE HISTORY

A 62-year-old man was brought to our emergency room by ambulance. He had been unable to speak for about an hour. On arrival, the patient felt fine; his speech problem had resolved. Vital signs were unremarkable, except for his blood pressure, which was 160/80 mmHg on the right arm but undetectable on the left arm. His medical history included left subclavian steal, internal carotid stenosis of 50%; arterial hypertension, peripheral arterial vascular disease and diabetic nephropathy. He took buflomedil hydrochloride, aspirin, digitoxin, glibenclamide and triamterene/hydrochlorothiazide.

Our patient was able to communicate without difficulties and to correctly execute simple commands (e.g. 'show me your tongue' or 'put your arms up'). In contrast, he did not know why he was in the hospital, nor was he able to give the date or the name of the city he was in. Physical examination was unremarkable, except for apraxia: when asked to reproduce specific motor tasks (e.g. to form a roof with both hands or a ring with the fingers of one hand), his hands moved inappropriately and somewhat helplessly. We asked the patient to draw a clock, with the hands set at eleven o'clock. The drawing (Figure 1) suggests dementia.¹ Cognitive impairment, ideomotor apraxia and lack of symptom awareness suggested global cerebral dysfunction.

The patient's wife reported that her husband was sometimes confused. During such episodes, he would not know what to use his tablets for, but was still able to walk to his favourite bakery. This had started one month prior to admission and occurred about three times a week, only in the morning, and lasting for some hours.

Results of the routine blood analyses arrived thirty minutes later, and the results included a blood glucose of

Figure 1 Clock with 'time set at 11:00', drawn by patient at admission

1.4 mmol/L (26 mg/dL). After 20 g of intravenous glucose, blood glucose rose to 9.4 mmol/L (170 mg/dL). This not only restored his ability to correctly indicate the date and the name of our city, but also resolved his apraxia and improved his drawing skills (Figure 2). In addition, the patient now remembered 'being funny in the morning', and said that breakfast at his favourite bakery always made him feel much better.

COMMENT

In this case, hypoglycaemia led to cognitive impairment, aphasia and ideomotor apraxia. All these symptoms improved with an Austrian pastry breakfast. His oral

Figure 2 Clock with 'time set at 11:00', drawn by patient 30 minutes after admission

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antidiabetic, the sulfonylurea glibenclamide, was taken in rather high daily doses (15 mg/day), and had probably accumulated with worsening renal dysfunction. Actual serum creatinine was 400 µmol/L (4.5 mg/dL), more than twice his last measurement.

Most physicians are familiar with the symptoms of acute hypoglycaemia: autonomic warning symptoms, followed by a variety of neuroglycopenic symptoms, such as confusion, seizures, coma, or focal deficits mimicking stroke.² By contrast, most physicians are less familiar with the symptoms of chronic hypoglycaemia. We tested our case with a number of colleagues, with uniform responses of surprise and enlightenment.

We found it hard to believe that a patient could walk and talk with a blood glucose lower than 30 mg/dL, especially at 62 years old. This shows that some patients, at least, may adapt to chronic hypoglycaemia—possibly through increased glucose uptake by the brain, or increased production of alternative brain fuels.³

Diabetics with repeated hypoglycaemic episodes lose awareness of hypoglycaemia, and lack autonomic warning symptoms.^{4,5} Patients with chronic hypoglycaemia may present as 'neuroglycopenia without warning symptoms', as our patient did. Altered memory, personality and behaviour

may then be misinterpreted as dementia. We believe that our patient should serve as a reminder to all clinicians to suspect hypoglycaemia in any funny patient.

Competing interests None declared.

Guarantor CP.

Contributorship MS and CS treated the patient and obtained the drawings, and wrote the first draft. All authors contributed to, and agreed on, the final manuscript.

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