

# Brittle Diabetes Presents a Diagnostic Challenge

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NEW YORK — True brittle diabetes is a rarity, with characteristic blood glucose lability, frequent hospitalizations, and life disruption often reflecting underlying psychiatric or organic disease, according to Dr. Irl B. Hirsch.

Diagnosis and management of this potentially lethal condition present significant challenges, as was shown in several cases Dr.

Hirsch presented at a meeting sponsored by the American Diabetes Association.

One case involved a 23-year-old woman who presented with a 15-year history of type 1 diabetes in 2000. She had been on an insulin pump for 5 years, and her hemoglobin A<sub>1c</sub> (HbA<sub>1c</sub>) levels ranged from 9% to 12%. As a teenager, she had had an eating disorder and had multiple hospitalizations for diabetic ketoacidosis. In the previous 2 years, she had been hospitalized twice for gastroparesis, and had developed severe pe-

ripheral neuropathy and osteoporosis.

By 2002 she developed nonproliferative retinopathy and proteinuria. "All those years of poor control were already catching up with her at age 25," said Dr. Hirsch, professor of medicine in the division of metabolism, endocrinology, and nutrition at the University of Washington, Seattle.

In 2004 she had an unplanned pregnancy and was hospitalized for 4 months, delivering the child 3 months prematurely. Her glucose was well controlled while she

was in the hospital, but subsequently it became elevated once again, reaching 10.4%.

Finally, in the summer of 2006, she had a kidney-pancreas transplant. "So the question is, does she have brittle diabetes?" Dr. Hirsch asked.

A diagnostic work-up determined that she had underlying celiac disease, with an important clue being the osteoporosis. "When you see osteoporosis in a young person, you have to think about calcium absorption," he said. "Celiac disease often goes hand in hand with type 1 diabetes." These patients can have extremely irregular blood glucose patterns because their food absorption is so erratic, he added.

A further concern with these patients is that between one-third and one-half of all teenage girls with type 1 diabetes will withhold insulin at some time for weight loss. "Unfortunately, this is a very effective and dangerous way to lose weight."

A second case involved a 30-year-old man who had nine hospitalizations during the first half of 2006 because of severe gastroparesis. The patient was eventually diagnosed with cannabis hyperemesis syndrome, a condition associated with long-term cannabis use that is characterized by cyclical episodes of vomiting in a susceptible patient.

The likely mechanism for this little-known phenomenon is a slowing of gastric emptying caused by the cannabis. "This patient does not have brittle diabetes when he's not smoking dope," he said.

A third case involved a single, 29-year-old woman with a 20-year history of type 1 diabetes and an HbA<sub>1c</sub> of 12% despite being on an insulin pump. She had frequent hospitalizations for pyelonephritis during the previous 10 years, although none for diabetic ketoacidosis.

"These patients are very good at taking just enough insulin to stay out of really bad ketoacidosis even though they're ketotic most of the time," Dr. Hirsch said.

In 2001 she switched from the insulin pump to glargine and lispro, with no change in HbA<sub>1c</sub>. She denied having depression and refused evaluation by a psychiatrist or psychologist.

In 2002 she developed mucormycosis and was hospitalized for 2 weeks and released on home intravenous antibiotics. "One week after discharge, the mother found the patient dead at home. The home antibiotics had never been opened," he said.

Like many patients with uncontrolled or brittle diabetes, this patient had severe major depression. With no family support, she was totally incapable of taking care of the diabetes and too depressed and overwhelmed even to take the antibiotics.

It can be quite dramatic how poorly some of these patients do, Dr. Hirsch continued. In one series where 20 patients whose mean age was 19 were followed for 8 years, 2 of the patients died. In another series of 33 patients followed for a decade, 5 were lost, and of the remaining patients, 19% died from diabetic ketoacidosis, hypoglycemia, or end-stage renal disease. "What you want to do when you present cases to a group like this is talk about ... how everybody lived happily ever after. That doesn't often happen with brittle diabetes." ■

## A D V E R T I S E M E N T

### Millions of American men suffer from symptomatic BPH.<sup>1-3</sup> And many remain undiagnosed.

Benign prostatic hyperplasia (BPH), also known as an enlarged prostate, can lead to restricted urine flow. Of the 20 million American men who have symptomatic BPH, only 5 million have been diagnosed.

Symptoms of BPH include:

- Frequent urination during the day and night
- Difficulty starting urination
- A weak and/or interrupted urine stream
- Inability to completely empty the bladder

While in most men these symptoms are caused by BPH, it is important to rule out prostate cancer as part of the diagnostic process.

#### Who is at risk for BPH?

Men over the age of 40 are primarily at risk for BPH.<sup>4</sup>

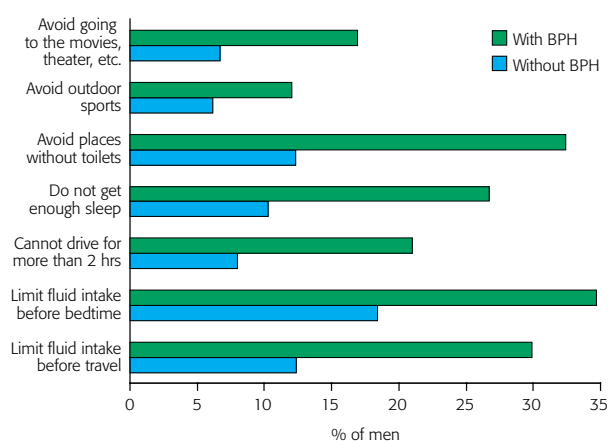
Age	% exhibiting symptoms of BPH
40 to 50	27
51 to 60	50
61 to 70	69
71 to 80	79

Unfortunately, the vast majority of men with BPH suffer in silence, often due to their embarrassment broaching the subject with their physicians or because they assume it is simply part of aging and that nothing can be done about it.

#### BPH can have a major impact on their lifestyle

Men with symptomatic BPH report disruptions in their lifestyle. BPH can create anxiety, interfere with routine activities and leisure pursuits, limit sexual activity, and cause sleep deprivation.<sup>5</sup>

#### % of men whose daily living was affected at least some of the time\*



BPH can also have an impact on the partners of men with BPH. One survey found that 86% of partners experience a lifestyle disruption. Forty-one percent were regularly awakened by their husbands' frequent urination at night.<sup>6</sup>

The symptoms caused by BPH can be managed. But first, the patient must overcome his reluctance to discuss the topic with his physician.

By using probing questions like the ones below, physicians can initiate a successful conversation about BPH.<sup>3,7</sup>

- Do you get up several times at night to urinate?
- Do you find it difficult to hold off urination?
- Do you have difficulty starting urination?

Once BPH has been diagnosed, the physician can then determine the best course of treatment.

#### Treatment options

Standard treatment options for BPH include watchful waiting, medical therapy with alpha blockers and/or 5-ARI inhibitors, and various surgical procedures. Treatment is typically driven by both the severity of symptoms and patient perception of lifestyle disruptions.

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