

Complications Of Diabetes: Honing Your Detective Skills

Several common, yet often underdiagnosed, complications associated with diabetes warrant investigation.

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Because people with diabetes are at a greater risk for a long list of comorbidities, medical practitioners often double as detectives while uncovering potential complications.¹ There are several common, yet often underdiagnosed, complications associated with diabetes that require consideration whenever a patient experiences weight gain or weight loss, or complains of something not feeling right.

UNEXPLAINED WEIGHT GAIN

If patients complain of sudden weight gain, more may be to blame than overeating and skipping exercise. One in five people with a family history of diabetes is likely to develop thyroid disease. Hashimoto's thyroiditis, an autoimmune condition and common cause of hypothyroidism, is often associated with sluggish metabolism, weight gain and dyslipidemia.² Because of their increased risk, people with diabetes should be screened annually for thyroid disease. Thyroid stimulating hormone levels higher than normal (0.3 mIU/mL to 3.0 mIU/mL) are considered an indicator of hypothyroidism. Thyroid scans and measurement of free T4 autoantibodies can help provide a clear diagnosis.² Thyroid hormone replacement therapy is critical to normalize metabolism and improve dyslipidemia.

Depression, which affects approximately 30% of people with diabetes and 12% of those suffering from major depression, may lead to unusual weight gain as a result of self-medication through food and alcohol. To identify depression in clients with diabetes, practitioners can ask two questions: (1) During the last two weeks, have you felt down, depressed or hopeless? (2) During the last two weeks, have you felt little pleasure in doing things? If the answer is yes, a referral to a mental health professional may be needed.

Certain medications also increase weight gain risk.

Patients with or without a history of diabetes may also experience rapid weight gain and severe hyperglycemia when initiated on antipsychotic drugs (eg, olanzapine, ziprasidone, quetiapine, risperidone, clozapine and aripiprazole).^{3,4} The US Food and Drug Administration has posted warnings and advised health care professionals to closely monitor blood glucose levels on all patients taking atypical antipsychotics.

Because diabetes increases the risk of congestive heart failure, weight gain may also be caused by fluid retention, and can be exacerbated by glitazones (eg, rosiglitazone and pioglitazone). Patients should be instructed to inform their provider of weight gain — especially >5 lbs — when taking this class of medications.

UNEXPLAINED WEIGHT LOSS

Several diabetes-related complications can cause unexplained weight loss. Possible explanations include celiac disease, hyperthyroidism and Addison's disease.

Most commonly occurring in youth and later age, celiac disease affects 5.4% of patients with type 1 diabetes and is often under- or misdiagnosed. An autoimmune condition that causes a hypersensitivity to gluten, celiac disease occurs when villi in the small intestine become paralyzed and the lining of the intestine becomes inflamed. Patients complaining of chronic diarrhea, fatty stools, weight loss and fluctuating glucose levels with signs of malabsorption should be tested for Antigliadin IgG, antigliadin IgA and endomysial antibodies. If these are positive, an intestinal biopsy is required to verify diagnosis. If celiac disease is confirmed, the patient must maintain a life-long gluten-free diet.

The risk of developing hyperthyroidism is >0.5% to 2% in patients with type 1 diabetes, making it important to rule out Graves' disease in a patient with hypermetabolism,

weight-loss exophthalmus, tachycardia and heat intolerance.²

In addition, another 0.5% of patients with type 1 diabetes suffer from Addison's disease, a rare autoimmune condition. This disease destroys the adrenal glands, which are responsible for releasing aldosterone. Aldosterone regulates sodium and potassium and stores corticosteroids or stress hormones. Patients with this condition experience weight loss, fatigue and depression, and may have hypoglycemia unawareness due to the fact that their body does not release the stress hormones in response to hypoglycemia. Potassium levels are often elevated and sodium levels may be below normal, causing salt cravings. This, along with discoloration on the hands and gums, may be the initial indicators of Addison's disease.

SOMETHING JUST ISN'T RIGHT

During patient interviews, providers may have a sense that something doesn't feel right. For example, a lean patient with newly diagnosed type 2 diabetes is started on two different types of oral diabetes medications and returns for a 3-month check-up. The patient reports exercising 30 minutes a day and losing 4 lbs due to healthy eating, yet blood glucose levels are still in the high 200s. According to the symptoms, the patient may have latent autoimmune diabetes in adults (LADA), an autoimmune destruction of the pancreas. Patients with LADA may initially respond to oral agents, but usually need insulin within 6 to 8 years of diagnosis. Islet cell autoantibodies and glutamic acid decarboxylase can be tested to confirm the diagnosis.

If a patient is complaining of any pain from the belt line and above, it should be considered myocardial in origin until otherwise ruled out. Cardiac autonomic neuropathy can mask anginal pain and cause myocardial infarctions to present in unusual ways (eg, back or shoulder pain, fatigue, confusion, edema, hemoptysis and dyspnea).

People with diabetes also benefit from other health-related questions asked to ensure their body is functioning properly and they have the best quality of life possible. Inquiring about gastrointestinal function is important, as diabetic diarrhea affects 20% of patients and constipation affects >50% with autonomic neuropathy. Men should also be questioned regarding erectile dysfunction, which occurs in approximately 50% of those with diabetes. Patients are often relieved when the provider initiates an open discussion of this common disorder, including treatment options.

Chronic hyperglycemia can also affect shoulders and hands. People with diabetes have an increased risk of adhesive capsulitis and three times the chance of developing carpal tunnel syndrome from compression of the media nerve.

Postorgan transplant patients require close glucose monitoring, as they have a 20% risk of developing posttransplant-diabetes due to steroids and antirejection therapy,^{6,7} physi-

cal stresses and preexisting diabetes risk factors. Patients with unmanaged posttransplant hyperglycemia risk death from cardiovascular disease — making this a complication that requires aggressive and ongoing management.

DON'T FORGET THE LIVER LINK

Because the liver is the main glucose storage site, it is important to keep in mind that liver disease can affect glucose regulation. For example, after age 40 years, patients with hepatitis C have three times the risk of also developing diabetes.⁸ Up to 80% of patients with cirrhosis also have glucose intolerance, and 75% of patients with hemochromatosis also have diabetes. Due to destruction of hepatocytes, patients with liver failure have decreased glycogen storing capacity and often suffer from hypoglycemia.

Most recently, a link has been discovered between insulin resistance and fatty liver disease. Accumulation of triglycerides in the hepatocytes leads to fatty liver and can cause liver damage without diagnosis and treatment. People at risk of nonalcoholic steatohepatitis include those with hyperglycemia, obesity and those aged >40 years. Signs and symptoms include enlarged liver with soft rounded edge easily felt on palpation, elevated alanine aminotransferase and aspartate aminotransferase, and abnormal labs associated with insulin resistance such as dyslipidemia and hypertension. Positive diagnosis can be made only with a liver biopsy and treatment includes exercise, weight loss, lipid correction, glucose control and drug therapy to reduce insulin resistance.

Thinking outside the box when assessing patients with diabetes may be beneficial in detecting less common but serious diabetes comorbidities. Careful listening and history taking can be helpful in accurately identifying those complications that are often off the radar and creating strategies for successful disease management. ■

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