Tool Screens for Latent Autoimmune Diabetes

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A relatively simple screening tool helps determine whether patients who present with adult-onset diabetes have type 2 disease or latent autoimmune diabetes, according to Dr. Spiros Fourlanos and his associates at the Walter and Eliza Hall Institute of Medical Research, Parkville, Victoria (Australia).

Latent autoimmune diabetes, which is believed to signal slowly progressive autoimmune β-cell destruction, is a form of type 1 disease characterized by adult onset; circulating islet cell antibodies and glutamic acid decarboxylase antibodies; and no initial need for insulin therapy. However, patients typically show dramatic loss of β-cell function within 3 years of diagnosis, which quickly leads to insulin dependence.

This is better than the current practice of screening only patients with a low BMI, as most with latent autoimmune diabetes are overweight.

"We believe that physicians need to be aware that patients with [latent autoimmune diabetes] are prone to insulin deficiency and often require rapid escalation of oral hypoglycemic treatment or commencement of insulin earlier than islet antibody–negative patients," Dr. Fourlanos and his associates said (Diabetes Care 2006;29:970-5).

Despite the frequency of the disorder and the difficulty in distinguishing it from type 2 diabetes, "there are no universal recommendations regarding testing for islet antibodies in adult-onset diabetes. Currently, many physicians test for islet antibodies only if they suspect [latent autoimmune diabetes]," the researchers said. Because most physicians also mistakenly assume that this disorder affects only normal-weight individuals, overweight adults who are diagnosed as having diabetes are presumed to have type 2 disease and are not tested.

The investigators conducted a retrospective study of 102 patients with latent autoimmune diabetes and 111 with type 2 diabetes to determine which clinical features distinguished the two groups so that they could develop a simple screening tool for physicians in clinical practice.

The subjects with latent autoimmune diabetes were significantly younger at diagnosis (median age 46 years vs. 61 years). Most (67%) had acute symptoms, such as polydipsia, polyuria, or unintentional weight loss, whereas only a minority of patients with type 2 diabetes (28%) were symptomatic. The median body mass index (BMI) was lower in the subjects with latent autoimmune diabetes, but a majority of them still qualified as overweight or obese. Finally, most also had a personal or family history of autoimmune disease, whereas subjects with type 2 diabetes did not.

Dr. Fourlanos and his associates used these five clinical traits to fashion a screening tool, and validated its usefulness in a prospective study of 130 subjects aged 30-75 years with recently diagnosed diabetes that didn't require insulin therapy. Subjects who had at least two of the five clinical features—age of onset older than 50 years, acute symptoms, BMI (kg/m^2) greater than 25, personal history of autoimmune disease, or family history of autoimmune disease—were more likely to have latent autoimmune diabetes and warranted antibody testing.

If these patients are not tested and identified, "our experience is that suboptimal glycemia in such patients is frequently prolonged because it is not attributed to autoimmune diabetes and insulin deficiency," they noted.

The screening also proved highly reliable at excluding a diagnosis of latent autoimmune diabetes in patients who had none or one of these features, with a negative predictive value of 99%. A score of 0 or 1 on this screen will exclude the autoimmune disorder and thus the need for antibody testing in approximately two-thirds of adults with diabetes, they added.

"This clinical screening method is superior to the current popular clinical practice of only screening patients with [a low] BMI …because a majority of subjects with [latent autoimmune diabetes] are overweight or obese," the investigators said. ■