

# Tool Screens for Latent Autoimmune Diabetes

BY MARY ANN MOON  
Contributing Writer

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 Furlanos 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  $\beta$ -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  $\beta$ -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. Furlanos 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. Furlanos 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 ( $\text{kg}/\text{m}^2$ ) 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 neg-

ative 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.

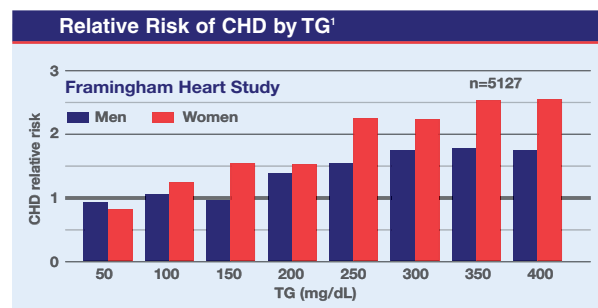
“This clinical screening method is superior to the current popular clinical practice of only screening patients with [a low] BMI ... because a majority of subjects with [latent autoimmune diabetes] are overweight or obese,” the investigators said. ■



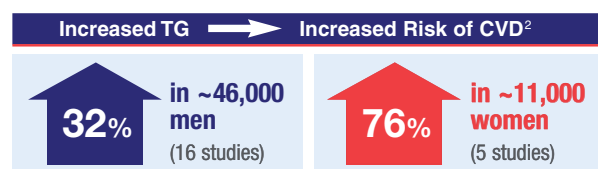
## What TG means to a woman's heart

### Elevated Triglycerides Make a Difference in Women's Risk of CHD

While great attention and clinical efforts have been directed toward LDL-C-lowering, the Framingham Heart Study 30-year follow-up clearly showed that elevated triglycerides (TG) are also associated with an increased relative risk of coronary heart disease (CHD)—especially in women.<sup>1</sup>



In addition, meta-analyses demonstrated that every 1 mmol/L (89 mg/dL) increase in TG increased cardiovascular disease (CVD) risk by:<sup>2</sup>



#### CHD is the #1 Killer of Women

The effect of elevated TG in women is important to keep in mind in view of the fact that CHD is the single leading cause of death among American women, claiming nearly 500,000 lives each year.<sup>3</sup> Menopausal women are particularly at risk, with CHD rates 2 to 3 times those of women the same age who are premenopausal.<sup>3</sup>

#### CHD Risks With Diabetes or Metabolic Syndrome\* in Women: Role of TG and HDL-C

Of the estimated 16 million Americans with diabetes, more than half are women.<sup>4</sup> In women, diabetes is a powerful risk factor for CHD, increasing CHD risk 3-fold to 7-fold compared to a 2-fold to 3-fold increase in men.<sup>5</sup> It has also been shown that metabolic syndrome is associated with a 2-fold risk of CHD mortality in women.<sup>6</sup> **It is important to note that the most common pattern of dyslipidemia in patients with type 2 diabetes is elevated TG levels and decreased HDL-C levels.<sup>7</sup>**

\*At least 3 of the 5 criteria: abdominal obesity with waist circumference >102 cm in men and >88 cm in women; triglycerides  $\geq 150$  mg/dL; HDL-C <40 mg/dL in men and <50 mg/dL in women; blood pressure  $\geq 130/85$  mmHg; fasting glucose  $\geq 110$  mg/dL.<sup>8</sup>

#### More Aggressive Guidelines for TG and HDL-C

While LDL-C lowering is recognized as the primary lipid target to reduce CHD morbidity and mortality, it does not remove all risk.<sup>9</sup> Recent data has shed more light on the role of increased TG and decreased HDL-C in CHD risk. It is critical that these lipid abnormalities be considered and managed, in addition to LDL-C. In fact, the current National Cholesterol Education Program (NCEP) guidelines recommend more aggressive TG and HDL-C target goals.<sup>8</sup> The American Heart Association (AHA) and American Diabetes Association (ADA) recommend similar aggressive goals for TG (<150 mg/dL) and HDL-C (>50 mg/dL) in CVD prevention for women.<sup>10,11</sup>

#### You Can Help Make a Difference

A majority of women are still not aware of the substantial CHD risks posed by abnormal lipid levels.<sup>12</sup> As a physician, you can help make a difference by raising your female patients' awareness of these issues, and by helping them achieve optimal lipid levels, as recommended by the NCEP, the AHA and the ADA.

References: 1. Castelli WP. Epidemiology of triglycerides: a view from Framingham. *Am J Cardiol.* 1992;70:3H-9H. 2. Hokanson JE, Austin MA. Plasma triglyceride level is a risk factor for cardiovascular disease independent of high-density lipoprotein cholesterol level: a meta-analysis of population-based prospective studies. *J Cardiovasc Risk.* 1996;3:213-219. 3. American Heart Association. Heart Disease and Stroke Statistics—2006 Update. Available at: <http://www.americanheart.org>. Accessed February 8, 2006. 4. Centers for Disease Control and Prevention. Office of Women's Health. Diabetes. Available at: [www.cdc.gov/od/spotlight/nwhw/pubs/diabetes.htm](http://www.cdc.gov/od/spotlight/nwhw/pubs/diabetes.htm). Accessed April 11, 2006. 5. Manson JE, Spelsberg A. Risk modification in the diabetic patient. In: Manson JE, Ridker PM, Gaziano JM, Hennekens CH, eds. *Prevention of Myocardial Infarction*. New York, NY: Oxford University Press; 1996:241-273. 6. Malik S, Wong ND, Franklin SS, et al. Impact of the metabolic syndrome on mortality from coronary heart disease, cardiovascular disease, and all causes in United States adults. *Circulation.* 2004;110:1245-1250. 7. American Diabetes Association. Management of dyslipidemia in adults with diabetes. *Diabetes Care.* 2003;26:S83-S86. 8. National Heart, Lung, and Blood Institute. Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). Bethesda, Md: National Institutes of Health; 2002. NIH Publication 02-5215. 9. Davidson MH. Reducing residual risk for patients on statin therapy: the potential role of combination therapy. *Am J Cardiol.* 2005;96(suppl):3K-13K. 10. Mosca L, Appel LJ, Benjamin EJ, et al. AHA Guidelines. Evidence-based guidelines for cardiovascular disease prevention in women. *Circulation.* 2004;109:672-693. 11. American Diabetes Association. Standards of medical care in diabetes—2006. *Diabetes Care.* 2006;29(suppl 1):S4-S42. 12. Mosca L, Ferris A, Fabunmi R, Robertson RM. Tracking women's awareness of heart disease: an American Heart Association national study. *Circulation.* 2004;109:573-579.