LABupdate

Diabetes Risk Index (DRI): Stratifying Risk Independent of Glycemic Status

The Diabetes Risk Index (DRI) measured on LabCorp's proprietary Vantera® platform, an automated nuclear magnetic resonance (NMR) clinical analyzer, combines selected lipoprotein and branched-chain amino acid (BCAA) parameters associated with insulin resistance into a clinically-actionable score (values 1-100) to help identify individuals with similar levels of glucose who differ in their risk of developing type 2 diabetes (T2D).

To help stem the growing epidemic of obesity and T2D, clinical practice guidelines recommend structured lifestyle modification and/or pharmacological intervention for patients with a high-risk glycemic status (ie, prediabetes as defined usually by fasting glucose = 100-125 mg/dL or HbA1c = 5.7-6.4%).[1,2] Since >80 million U.S. adults qualify as "high-risk" by glycemic criteria, a need has been recognized for a more refined approach to risk stratification, to improve cost-effectiveness by directing treatment to the subset of prediabetes patients at highest risk.[3] Waiting until the onset of prediabetes before initiating preventive measures may also be suboptimal, since many individuals with normal glucose levels progress to diabetes in a relatively short time period.[4] The DRI test assesses a patient's degree of insulin resistance, the core pathophysiologic defect that with time can lead to hyperglycemia caused by impaired insulin secretion resulting from loss of pancreatic β-cell function and mass.[5,6] By the time a patient reaches the threshold of prediabetes, up to 80% of β-cell function may already have been lost.[5,6]

The DRI score is calculated from the patient's measured Lipoprotein Insulin Resistance Index (LP-IR)[7] plus the concentrations of two branched-chain amino acids, valine and leucine.[8] LP-IR and BCAA values both have been shown in multiple prospective clinical studies to predict the development of T2D independent of the level of glycemia.[9-14]

The LP-IR score, the main determinant of DRI, has been shown to be modifiable by drug and lifestyle interventions that produce weight loss and increase insulin sensitivity.[15-17] Reductions of DRI and LP-IR are thus clinically achievable and likely to reflect a corresponding reduction of the risk of developing diabetes.

LabCorp offers the Diabetes Risk Index to aid clinicians with therapeutic decision-making based on a patient's risk of developing T2D independent of glycemic status.

Test Name			Test No.
Diabetes Risk Index (DRI)			**123855**
Cut Points	**Men**	**Women**	
Low risk	< 50	< 40	
Moderate risk	50 - 65	40 - 55	
High risk	> 65	> 55	
Methodology: Nuclear magnetic resonance (NMR)			
Platform: Vantera			

For the most current information regarding test options, including specimen requirements and CPT codes, please consult the online Test Menu at **www.LabCorp.com.**

References

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