Journal of Clinical Chemistry and Laboratory Medicine

OPEN ACCESS Freely available online

Commentary

Diagnosis, Treatment and Management of Latent Autoimmune Diabetes in Adults (LADA)

Sandra Fourlanos*

Department of Diabetes and Endocrinology, The Royal Melbourne Hospital, Victoria, Australia

DESCRIPTION

Adult latent autoimmune diabetes (LADA) is a slowly progressive form of autoimmune diabetes. It is similar to type-1 diabetes. LADA occurs because the pancreas stops producing proper insulin due to an "injury" that slowly damages the insulin-producing cells of the pancreas. However, unlike type 1 diabetes, it does not require insulin for months to years after diagnosis. It progresses very slowly over ten years. Many researchers believe that LADA, sometimes called type-1.5 diabetes, which is a subtype of type-1 diabetes, but others do not recognize it as a separate entity. Researchers believe that LADA lies between type-1 and type-2 diabetes. A LADA patient generally has worse HbA1c levels than type 2 diabetic patients. LADA patients are usually over the age of thirty. Patients with LADA are often mistaken for type-2 diabetes because they are older than those with type-1 diabetes at typical symptom onset and because the pancreas is the first to produce insulin.

This disease is caused by autoimmunity-mediated destruction of pancreatic β-cells, leading to insulin deficiency, hyperglycemia and complications. Antibodies that affect the pancreas and how they work can influence the body's response to blood sugar. Initially, LADA can be treated by controlling blood sugar with diet, weight loss, exercise if needed, and sometimes oral medications. But as the body gradually loses its ability to produce insulin, patients eventually need insulin injections. The only way to confirm a diagnosis of LADA is to check for antibodies against insulin-producing cells in the pancreas by blood test. Concerned doctor checks levels of a protein called C-peptide to get information about how much insulin patient body is producing. Oral medications are started by the doctor, usually metformin, and insulin injections may also be needed because the patient's blood sugar is already elevated. LADA is caused by the formation of autoantibodies against pancreatic cells, insulin, or enzymes involved in pancreatic function. This means that LADA patients who are in their 20s to 40s need the required amount of insulin for the first few years after treatment. Clinically, LADA patients tend to have a younger mean age of diabetes onset, a lower body mass index, and more frequent insulin treatment requirements than type-2 diabetic patients. It works by reducing hepatic glucose output and sensitizing peripheral tissues to the action of insulin. Unlike sulfonylureas, it does not cause β-cell depletion. LADA patients have some degree of insulin resistance and therefore benefit from metformin. There is no specific treatment protocol for LADA yet. Treatments commonly prescribed to treat type-2 diabetes may also be effective in treating type 1.5 diabetes. These treatments may include a combination of low-carb diet, lean proteins and vegetables. Although some reports suggest that LADA patients are less likely to have a family history of type 2 diabetes, a recent study (Nord-Trøndelag Health Study) suggests that family history is an important factor in LADA. To diagnose LADA, the Immunology of Diabetes Society has established three main criteria and they include:

- Adult age of onset (>30 years)
- Presence of islet cell autoantibodies
- There is no need for insulin for at least 6 months after diagnosis

Whereas type-1 diabetes often develops rapidly, LADA is not rapid and also known as slowly progressive form of type -1 diabetes. As β-cell function is lost more slowly than in type-1 diabetes but more rapidly than in type-2 diabetes, patients may initially respond to noninsulin glucose-lowering agents. With time people get able to manage type-1.5 diabetes with lifestyle factors like maintaining a healthy weight, sticking to healthy foods, and exercising. Currently, there is no cure for type 1 - diabetes. As with both T1D and T2D, the risk of LADA depends on both genetic and environmental factors. LADA has several lifestyle risk factors in common with T2D, such as obesity, physical inactivity, smoking and consumption of sweetened beverages, all of which are linked to insulin resistance. Although smoking has been shown to increase the risk of T2D while coffee consumption has been shown to reduce the risk of T2D, the results regarding these products and LADA are yet unclear. Several studies have shown that obesity increases the risk of LADA, with one study showing that the risk was particularly high if there was a family history of diabetes. Although LADA initially appears to respond to treatment (lifestyle and medications) similar to type-2 diabetes, it does not stop or slow the progression

Correspondence to: Sandra Fourlanos, Department of Diabetes and Endocrinology, The Royal Melbourne Hospital, Victoria, Australia, E-mail: sandra.fourlanos@austin.org.au

Received: 30-Nov-2022, Manuscript No. JCCLM-22-20346; **Editor assigned:** 05-Dec-2022, PreQC No. JCCLM-22-20346 (PQ); **Reviewed:** 19-Dec-2022, QC No. JCCLM-22-20346; **Revised:** 26-Dec-2022, Manuscript No. JCCLM-22-20346 (R); **Published:** 02-Jan-2023, DOI: 10.35248/JCCLM.23.05.259

Citation: Fourlanos S (2023) Diagnosis, Treatment and Management of Latent Autoimmune Diabetes in Adults (LADA). J Clin Chem Lab Med. 5:259

of beta-cell destruction, and people with LADA eventually become patients with LADA which exhibit insulin resistance similar to long-term type 1 diabetes. Several studies have shown that a LADA patient has lower insulin resistance compared to type 2 diabetic. Emotional exhaustion may play an important role in the induction of LADA. It is important for individuals to maintain optimism, cheerfulness and a positive attitude.