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Editorial Note on Glycated Albumin: A Potential Biomarker for Diabetes

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Editorial

Diabetes mellitus (DM) is a chronic metabolic condition characterized by decreased or nonexistent insulin production, as well as decreased insulin tissue sensitivity. DM is currently a global epidemic that poses a significant burden to health-care systems across the world. According to the International Diabetes Federation (IDF), one in eleven individuals (about 415 million people) has diabetes, with 193 million of them still undiagnosed. Glycated haemoglobin (A1C), fasting plasma glucose (FG), and two-hour plasma glucose (2hG) following a 75 g oral glucose tolerance test are currently used to diagnose DM (OGTT).

Glycated albumin (GA) is a laboratory test that has gained popularity in the last few decades for glycemic monitoring in diabetic patients. GA is one of the fructosamines, but because it is unique to albumin glycation rates, it is not affected by the concentrations of other serum proteins. Furthermore, because the half life of albumin is approximately 3 weeks, GA does not need fasting for testing and represents short-term glycemia. In contrast to A1C, GA is unaffected by hemolytic processes or elevated Hb levels.

Furthermore, GA appears to be a superior glycemic measure than A1C in circumstances such as anaemia, pregnancy, postprandial hyperglycemia, and DM with insulin and it is especially advised for diabetic patients on hemodialysis. Recently, investigations on type 1 and type 2 diabetes patients found a link between GA and the disease's chronic consequences.

GA is a short-term glycemia measure that has been tested as an alternative to A1C in diabetic patients. GA is more accurate than A1C for determining glycemic variability. It is also recommended for patients undergoing hemodialysis, and its levels are unaffected by anaemia or hemolytic processes. GA is more advantageous than the fructosamine test since it is unaffected by other blood proteins.

The enzymatic approach for its analysis is simple and quick to execute, as well as extremely analytically efficient and more consistent. Several investigations have demonstrated that GA has high diagnostic sensitivity and is significantly linked to diabetic microvascular problems.

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