ADVANCE DIAGNOSTICS CENTRE
C1-C2/17A, NEAR NIHARIKA TALKIES
KORBA- 495677
PH-09228333 MOBILE-9300888178

NAME	: MRS VIDHI BANSAL	35 Years / Female	Reg No.	:	17768
Ref. By	: DR NAVNEET AGRAWAL		Reg. Date	:	22/07/2022 08:48AM
Address	:		Collected At	:	MedZone Center

INVESTIGATION REPORT

CLINICAL BIOCHEMISTRY

TEST	RESULT	UNIT	BIOLOGICAL REF RANGE	TEST METHOD
C-Peptide				
Sample Type	: SERUM			
C-Peptide	: **0.02**	ng/mL	1.1 - 4.4	Electro CLIA

Connecting peptide is a single chain 31-amino acid (AA 33-63) connecting (C) polypeptide with a molecular weight of approx. 3021 daltons. In the process of biosynthesis of insulin the C-peptide is formed as a by-product together with insulin by the proteolytic cleavage of the precursor molecule proinsulin, stored in secretory granules in the Golgi complex of the pancreatic β-cells. Proinsulin in turn was cleaved from preproinsulin. C-peptide fulfills an important function in the assembly of the two-chain insulin (A- and B-chain) structure and the formation of the two disulfide bonds within the proinsulin molecule. Insulin and C-peptide are secreted in equimolar amounts and released into circulation via the portal vein. As half of the insulin, but almost none of the C-peptide is extracted in the liver, C-peptide has a longer half-life (about 35 min.) than insulin; 5 to 10 times higher concentration of C-peptide persist in the peripheral circulation, and these levels fluctuate less than insulin. The liver does not extract C-peptide, which is removed from the circulation by the kidneys and degraded, with a fraction excreted unchanged in the urine. The concentration in urine is about 20-50 fold higher than in serum. C-peptide concentrations are therefore elevated in renal disease. In the past, C-Peptide has been considered biologically inactive. However, recent studies have demonstrated that it is capable of eliciting molecular and physiological effects suggesting that C-peptide is in fact a bioactive peptide. There is evidence that C-peptide replacement, together with insulin administration, may prevent the development or retard the progression of long-term complications in type 1 diabetes. Measurements of C-peptide, insulin and glucose are used as an aid in the differential diagnosis of hypoglycemia (factitious hypoglycemia and hypoglycemia caused by hyperinsulinism) to ensure an appropriate management and therapy of the patients. To quantify the endogenous insulin secretion, C-peptide is measured basally, after fasting and after stimulation and suppression tests. Due to high prevalence of endogenous anti-insulin antibodies C-peptide concentrations reflect the endogenous pancreatic insulin secretion more reliably in insulin-treated diabetics than the levels of insulin itself. Measurements of C-peptide may therefore be an aid in the assessment of a residual β-cell function in the early stages of type-1 diabetes mellitus and for the differential diagnosis of latent autoimmune diabetes of adults (LADA) and type-2 diabetes. C-peptide measurements are also used to asses the success of islet transplantation and for monitoring after pancreatectomy. Urine C-peptide is measured when a continuous assessment of β-cell function is desired or frequent blood sampling is not practical (e.g. in children). C-peptide excretion in urine has been used to assess pancreatic function in gestational diabetes, and in patients with unstable glycemic control in insulin-dependent diabetes mellitus (IDDM). Although testing for C-peptide is not requested for the routine monitoring of diabetes, it is a valuable tool for the individual therapeutic decisions which are essential for an optimal long-term metabolic control. Elevated C-peptide levels may result from increased β-cell activity observed in hyperinsulinism, from renal insufficiency, and obesity. Correlation was also found between higher C-peptide levels and increasing hyperlipoproteinaemia and hypertension. Decreased C-peptide levels are observed in: starvation, factitious hypoglycemia, hypoinsulinism (NIDDM, IDDM), Addison's disease and after radical pancreatectomy.

METHOD: One-step sandwich and competitive FEIA

INSTRUMENT: TOSHO AIA-360 JAPAN

--- End Of Report ---

Sample Registered On : 22/07/2022 08:48AM

Sample Received On : 22/07/2022 08:55AM

Report Released On : 24/07/2022 03:39PM

Sample Barcode :

Checked By:tulesh

Dr. VANDANA CHANDANI