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LEVELS OF METABOLIC MARKERS IN DRUG-NAIVE PREDIABETIC AND TYPE 2 DIABETIC PATIENTS

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Aims: Type 2 diabetes mellitus (T2DM) and prediabetes (pre-DM) are associated with changes in levels of metabolic markers. The main aim of this study is to compare the levels of betatrophin, omentin, irisin, endothelin-1, nesfatin, hepatocyte growth factor (HGF), fibroblast growth factor (FGF21), and oxytocin (OXT) between normoglycemic and pre-DM/T2DM obese Jordanian patients.

Methods: 198 adult Jordanian subjects were recruited. Demographic data and clinical parameters were collected. The serum levels of biomarkers were measured by enzymatic assay procedure.

Results: Compared to normoglycemic (95 subjects), pre-DM/T2DM (103 subjects) displayed higher HGF, nesfatin and betatrophin. On the other hand, they had lower levels of omentin, irisin and oxytocin. In comparison, FGF-21 and endothelin did not differ between the two groups. Using stepwise multiple regressions, OXT negatively and significantly correlated with HbA1c, FGF21, HGF but positively with both irisin and gender. Triglycerides (TGs) and HbA1c positively correlated, but irisin negatively correlated with betatrophin. Endothelin negatively correlated with irisin but positively with nesfatin. Nesfatin positively correlated with TGs, FPG, and HbA1c. FGF21 negatively associated with oxytocin and irisin. HGF negatively correlated with gender, OXT, and omentin but positively with age. Irisin negatively correlated with betatrophin, HbA1c, nesfatin, and FGF21 but positively with OXT, HDL-C, and age. Omentin negatively correlated with nesfatin, HGF but positively with irisin. OXT and irisin negatively correlated with HbA1c. Betatrophin positively correlated with HbA1c, while nesfatin positively correlated with FPG. Betatrophin and nesfatin positively correlated with TGs.

Conclusions: In the present study, patients with pre-DM and T2DM have higher serum levels of metabolic HGF, nesfatin, and betatrophin and lower levels of omentin, irisin, and OXT. Future longitudinal and interventional studies are required to confirm the utility of these markers as novel progression or therapeutic targets in the pharmacotherapy of diabetes.

Biography

Violet Kasabri, PhD, MSc, is a Biomedical Professor at The University of Jordan. Dr Kasabri has over 60 Publications between peer reviewed journal articles and book chapters. She is an internationally recognized expert in many areas of natural product based therapeutics of Diabetes, Obesity and Cancer, in addition to her research and projects in Clinical Research and Drug Discovery. She is a regularly sought after and requested lecturer at the National, Regional and International Symposiums. Professor Kasabri is a regularly and frequently invited reviewer for numerous International journals with relevant fields of expertise. Her Recent publications include papers on the efficacious Synthetic anti-diabesity agents in addition to her work with pancreatic proliferative natural products as therapeutic regenerative agents. Professor Kasabri is a Prominent faculty member at the School of Pharmacy, Dept. of Clinical Pharmacy-The University of Jordan where she routinely lectures on various topics related to Clinical Biochemistry and is a member of the American Society for Nutrition. She has served as a member of various scientific societies and acted on a number of institutional committees including the Editorial Committee of the 15th Scientific Congress of the Association of Pharmacy Colleges in the Arab world. Professor Kasabri is recognized by her peers as a scientific expert that integrates new technologies into everyday practices. Professor Kasabri has been investigating the effectiveness and utility of natural products into preventive medicine of diabesity and cancer for the past years. Dr. Kasabri holds a BSc with highest honors in Biomedical Sciences from The University of Jordan. She completed her Masters with Distinction as well as her PhD in Biomedical Sciences from University of Ulster, N. Ireland, UK.

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