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BIOGRAPHY

Hasanat MA working as professor in the Department of Endocrinology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh and he obtained M Phil and MD from Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM), Dhaka, Bangladesh. He has published more than 45 original articles. He achieved best researcher award of BSMMU in 2016. His major research areas are diabetes (including GDM), PCOS and infertility, thyroid diseases and other endocrine problems. His speeches on GDM and thyroid autoimmunity are available in many websites. He is also working as Editor (American Research Journal of Endocrinology, SciFed Obesity Research Journal, International Journal of Diabetes, Global Scientific Research Journals and Clinical Journal of Diabetes Care and Control) and Assoc. editor (Obesity and Diabetes International) of different open access journals.

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MECHANISM OF GESTATIONAL DIABETES: INSULIN RESISTANCE OR SECRETORY FAILURE?

The aim of the project was to obtain a better understanding of the biochemical derangement that leads to hyperglycemia during pregnancy in Bangladeshi women.

Gestational Diabetes Mellitus (GDM) is an emerging issue for health care professionals. It is associated with adverse pregnancy outcome. In Bangladesh, an alarming frequency of GDM has been observed recently. Among the risk factors identified in the literature, ethnicity appears to be the most significant one. The trend toward increased maternal age, the epidemic of obesity and diabetes, decrease in physical activity and adoption of modern lifestyle in developing countries may all contribute to an increase in prevalence of GDM. However, genetic polymorphism seems to be interposed to compound the issue. We have been investigating these issues of GDM in our population. In this context, we have observed progressive increase in insulin resistance (IR) resulting in compensatory increase in insulin secretion as measured by C- peptide but not sufficient to the degree of overcoming resistance. Appearance of many hormones, such as hPL, prolactin, progesterone, cortisol and cytokine like TNF-α particularly during late pregnancy antagonizes the effect of insulin and triggers a state of IR. Among these biomarkers we have found fasting insulin, TNF-alpha and fibrinogen to be increased significantly in women with GDM especially when associated with overweight compared to pregnancy with normal glucose tolerance (NGT). On the other hand, prolactin, hPL, hs-CRP were not found to differ between GDM and NGT. Apart from these, we also observed higher frequency of single nucleotide polymorphism (SNP) for TCF7L2 rs7903146 gene in GDM particularly for young and lean mothers. In conclusion, GDM is a constellation of involvement of multiple factors.