



## Gestational Diabetes Mellitus and Cardiac Autonomic Regulation-A Non-invasive

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### Abstract:

Gestational diabetes mellitus (GDM) is associated with vascular dysfunction. Sympathetic nervous system activity (SNA) is an important regulator of vascular function, and is influenced by glucose and insulin. Sympathetic hyperactivity is directly linked to cardiovascular and metabolic diseases. Heart rate variability has come to be widely used as a noninvasive tool to assess autonomic function in a variety of physiologic as well as disease states. Most of the studies have reported that, decrease in the high-frequency (HF-Para sympathetic) and low-frequency (LF-sympathetic) band significantly increased. The LF-to-HF ratio was significantly higher (sympathetic predominance) in the group with GDM. Recent studies suggest that the chemo reflex plays a greater role in the development of cardiovascular diseases based on MSNA in women with GDM. Future research should focus on women with the borderline GDM group came from different ethnicity and its impact on MSNA (muscle sympathetic nerve activity). Heart Rate Variability as early biomarker for the evaluation of diabetes mellitus progress among both GDM woman and fetus. We strongly recommended that clinicians should be collaborated with trained clinical neurophysiologist for early screening, diagnostic, prognostic and prevention of future risk of GDM-induced maternal and fetal complications.

### Biography:

Dr. M.Rajajeyakumar, completed MD Physiology at (JIPMER- An Institution of National Importance under the Ministry of Health & Family Welfare, Govt. of India). At present, working in the department of Physiology, Trichy SRM Medical College and Research Centre, Tamilnadu. His teaching and research experience are more than 11 yrs. He published more than 117 research papers and serving as an editorial board member (32) and expert reviewer (20) of national and international indexed journals (Scopus/Web of science/ Pubmed) etc. He also serving as an



advisory Council member- Pure Action, Yoga is Medicine, Austin, TX 78703, USA and ambassador - International Bentham Science publishers, UAE. He received 17 awards national and international level and visited as honorable guest Speaker to various counties like USA, UK, Canada, Singapore, Dubai and Malaysia.

### Publication of speakers:

1. Effect of pregnancy on autonomic nervous function and heart rate in diabetic and nondiabetic women. Airaksinen KE, Salmela PI, Ikaheimo MJ, Kirkinen P, Linnaluoto MK, Takkunen JT; *Diabetes Care*, (6):748-751;MED: 3428050
2. Nutritional recommendations and principles for individuals with diabetes mellitus American; *Diabetes Care*
3. Changes in baroreceptor sensitivity for heart rate during normotensive pregnancy and the puerperium. Blake MJ, Martin A, Manktelow BN, Armstrong C, Halligan AW, Panerai RB, Potter JF ;*Clin. Sci.*, (3):259-268; MED: 10677383
4. Effect of intravenous glucose injection on human maternal and fetal heart rate at term. Bocking A, Adamson L, Carmichael L, Patrick J, Probert C; *Am. J. Obstet. Gynecol.*, (4):414-420;MED: 6695999

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