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## Diabetes-Tuberculosis Nexus: Is it a Global Double-Trouble Problem?

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#### Abstract:

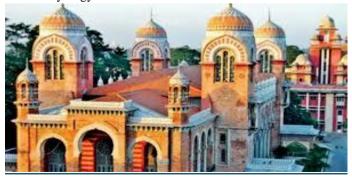
Background: Diabetes impairs immunity which makes the patients more susceptible for tuberculosis (Diabetes-Tuberculosis synergy). Compared to active tuberculosis, the prevalence of latent tuberculosis infection (LTBI) among diabetes patients is poorly studied.

Research Question: In, the present study the prevalence of LTBI among pre-diabetes and diabetes patients was studied, along with systemic and recall cytokine responses (n=804).

Study Design and Methods: LTBI was screened by Quantiferon TB gold in Normal glucose tolerance ((NGT); n=170), Prediabetes (PDM; n=209), Newly diagnosed diabetes (NDM; n=165) and Known diabetes (KDM; n=260) subjects. Cytokine levels in serum and quantiferon supernatants was quantified by ELISA. Serum insulin, leptin, adiponectin and FGF-21 levels were also measured

Results: The LTBI prevalence was found to be significantly lower among pre-diabetes and newly diagnosed diabetes subjects and identical in known diabetes subjects, compared to control (p<0.05). However, unexpectedly, the LTBI prevalence was higher in the hypertensive compared to non-hypertensive groups (p<0.05). The increased levels of TNF- $\alpha$ , IL-6 and IL-1 $\beta$  in the PDM and NDM groups could account for the lower LTBI prevalence in these groups. Insulin levels were elevated due to co-morbidity with LTBI.

Conclusion: The role played by cytokines and hormones in DM-TB synergy would be discussed.



### **Biography:**

Assistant Professor, Department of Genetics, Dr.ALM PG IBMS, University of Madras,bTaramani Campus, Scientist, Laboratory of Molecular Immunology, Life Sciences, AU-KBC, Anna University, MIT campus, Chrompet, Chennai, Scientist, Dept of Transcriptomics and Molecular Immunology, Madras Diabetes Research Foundation,

#### **Speaker Publications:**

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