

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), Pre-diabetes (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- α , IL-6 and IL-1 β 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:

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Speaker Publications:

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2. Th-2 immunity and CD3+CD45RB^{low}-activated T cells in mice immunized with recombinant bacillus Calmette-Guerin expressing HIV-1 principal neutralizing determinant epitope. Aravindhan V., Narayanan S., Gautham N., Prasad V., Kannan P.,
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