#### Study of Pulmonary Tuberculosis in Type 2 Diabetes in Reference to Clinical, Radiological Presentation and Response to Treatment

Thesis

Submitted for Partial Fulfillment of master Degree In Chest Diseases

By
Nermin Mohammed Samy El-Said Hussien
M.B.B.Ch

Supervised by

Prof. Mohammed Ali Farrag

Professor of Chest Diseases Faculty of Medicine Ain Shams University

#### Assist. Prof. Ibrahim Ali Dwedar

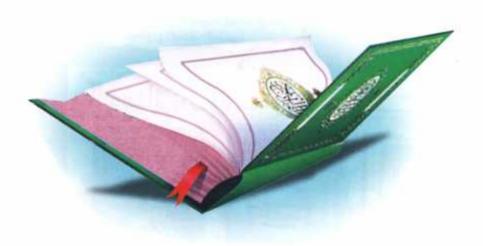
Assist. Professor of Chest Diseases Faculty of Medicine Ain Shams University

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# بسرائله الرحمن الرحير

" رَبِّ أُورْضِنِي أَنْ أَشْكُرَ نِعْمَتَكَ (لَّتِي أَنْعَمْتَ عَلَيَّ وَرَائِنْ أَشْكُرَ نِعْمَتَكَ (لَّتِي أَنْعَمْتَ عَلَيَّ وَكَانْ أَعْمَلُ صَالِمًا تَرْضَاهُ وَلَافْخِلْنِي وَعَلَى وَلَائِرِيَّ وَلَانْ أَعْمَلُ صَالِمًا تَرْضَاهُ وَلَافْخِلْنِي بِمَاوِكَ (الصَّالِحِينَ " برَحْمَتِكَ فِي عِبَاوِكَ (الصَّالِحِينَ "

صدق الله العظير النمل (١٩)





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#### List of Abbreviations

**AD:** Adenosine Deaminase.

ADA: American Diabetic society

**AECs:** airway epithelial cells

AFB: Acid-Fast Bacilli.

**AGEs:** Advanced glycation end products.

Ags: Antigen

**AIDS:** Acquired Immune Deficiency Syndrome

ASL: airway surface liquid

**ATS:** American Thoracic Society

**BCG:** Bacille Calmette-Guerin.

**BMI:** Body mass index

**BMM:** Broth Micro-Dilution Method.

**BTB:** bovine tuberculosis

CBC: complete blood picture

**CDC:** Centers for Disease Control & Prevention.

**CFT:** Complement Fixation Tests.

**CI:** Confidence Interval.

**CLRs:** C-type lectin receptors

CVS: cardiovascular disease

**DC:** dendritic cell

**DKA:** Diabetic ketoacidosis

**DM:** Diabetes mellitus

**DMTB:** Diabetes mellitus with TB

**DNA:** Deoxyribonucleic acid

**DNA:** Deoxyribonucleic Acid.

**DOTS:** Direct Observed Therapy Strategy.

**DST:** Drug susceptibility testing

E: Ethambutol.

**EF:** Efficiency.

**ELISA:** Enzyme-Linked Immuno-Sorbent Assay.

**ELISPOT:** Enzyme-Linked Immunospot.

**EMB:** Ethambutol

**ESR:** Erythrocyte sedimentation rate

FBG: Fasting blood glucose

FDA: Food and drug administration

GC: Growth Control

**GDA:** German Diabetes Association

**GSH:** L-Glutathione reduced form

**GSSG:** L-Glutathione oxidized form

**HAT:** Haemagglutination tests.

**HbA1c:** Hemoglobin A1c

HIV: Human Immunodeficiency Virus

**HTN:** Hypertension

IAPP: Insulin associated amyloid polypeptide

**IFA:** Immuno-Flurescent assay.

IFG: Impaired fasting glycaemia

**IGRA:** Interferon release assay.

IL: interlukin

IM: Intramuscular.

**INF**: Interferon gamma.

**INH:** Isoniazide

iNOS: Inducible nitric oxide synthase

**IV:** Intravenous

**LADA:** Latent autoimmune diabetes of adult

LAM: lipo-arabino-manann

**LAM:** Lipoarabinomannan

LCR: Ligase chain reaction.

**LiPA:** Line Probe assay.

LJ: Lowenstein-Jensen.

Lzd: Linezolid.

M: Mycobacterium.

MAC: Mycobacteria avium-intracellulare complex.

MAIT: Mucosal-associated invariant T cells

MALDI-TOF MS: Matrix-assisted laser desorption/

ionization time-of-flight mass

MDR-TB: Multi-Drug-Resistant Tuberculosis.

**MDR-TB:** Multi-Drug-Resistant Tuberculosis.

**MGIT:** Mycobacterial Growth Indicator Tube

**MOTT:** Mycobacteria Other Than Tubercle bacilli.

**MTB:** Mycobacterium tuberculosis

MTBC: Mycobacterium tuberculosis

NAA: Nucleic acid amplification

**NADPH:** Nicotinamide adenine dinucleotide phosphate

**NEFA:** non-esterified fatty acids

**NK:** Natural killer

NOD2: Nucleotide-binding oligomerization domain-

containing protein 2

NTM: Non tuberculous mycobacteria

NTM: Non Tuberculous Mycobacteria.

**OGTT:** oral glucose tolerance test

P: Pyrazinamide.

**P-A:** Postero-anterior.

**PAD:** Peripheral arterial disease

PAS: P-Amino Salicylic acid.

**PBMCs:** peripheral blood mononuclear cells

PCR: Polymerase Chain Reaction.

PPBG: Post prandial blood glucose

**PPD:** Purified Protein Derivative.

**PPT:** Post primary tuberculosis

**PRR:** Pathogen recognition receptor

**PTB:** Pulmonary tuberculosis

PZA: Pyrazinamide.

R: Rifampicin.

**RBG:** Random blood glucose

**RFLP:** Restriction Fragment Length Polymorphism

**RIF:** Rifampicin

RNA: Ribonucleic acid

**RNS:** Reactive nitrogen species

**ROS:** Reactive oxygen species

**rRNA:** Ribosomal RNA

S. aureus: Staphylococcus aureus

**S:** Streptomycin.

S: Svedberg unit

**SCC:** Short Course Chemotherapy.

**SD:** Standard Deviation

**TB:** Tuberculosis

**TGF:** Transforming growth factor

**Th:** T helper

**TLR:** Toll like receptor

**TNF:** Tumor necrosis factor

WHO: World Health Organization.

Z.N: Zhiel-Neelsen acid-fast stain

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