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Some Biochemical, Haematological and Hormonal Changes Accompained Short Course Therapy of Pulmonary Tuberculosis in Women in Al-Muthanna Province

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Abstract

The present study aims to investigate some of the hormonal ,biochemical ,and haematological alteration that accompanied untreated patients with (PTB) and the side effects of antituberculosis drugs with directed observed treatment short course (DOTS). This study was carried out at the Consultantion Clinic for Respiratory and Chest Diseases laboratory , the feminine and children teaching hospital laboratories and public health laboratory in Al-Muthanna province, during the period extended from16/10/2015 to 12/ 8/2016.

Tow hundred women (aged between 21-60 years) were included in the present study , 100 of them suffer from pulmonary tuberculosis , were examined before treatment , after two months , and after six months of treatment, whereas the resting 100 women were apparently healthy and served as control group .The present study indicates high percentage of PTB infection in age group (51-60) especially in the rural areas (72%) which reported a significant higher ($P<0.05$) Percentage compared with 28% in the urban areas. The results of (T4) and (T3) hormones revealed significant decrease ($P<0.05$) in the patients after 2 and 6 months of treatment in comparison with control group. In comparison between treatment periods, T4 and T3 levels decreased significantly as treatment period prolonged. Significant decrease($P<0.05$) of (EPO) levels was shown in patients before treatment compared with control. TC, TG, HDL and LDL concentration revealed significant lower levels in patients before treatment compared with control. While the results show significant increase in ALT and AST of after treatment compared with before treatment and control group. Significant decrease ($P<0.05$) of RBCs and Hb levels were shown in patients before treatment compared with control.While significant increase($P<0.05$) of WBCs was shown in patients before treatment compared with control.From this study we conclude the rate of infection PTB increases with progress the age especially in rural areas and there are great side effect of antituberculosis drugs on thyroid gland and hepatocytes.

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List of Abbreviations

ALT	Alanine amino Transferase
AST	Aspartate amino Transferase
Dl	Deciliter
DNA	Deoxy ribonucleic acid
DOTS	Directly Observed Treatment Short course
EDTA	Ethylene diamine tetra acetic acid
ELISA	Enzyme Linked Immune Sorbent Assay
EMB	Ethambutol
EMRO	Eastern Mediterranean Region Organization
EPO	Erythropoietin
G	Gram

GPT	Glutamate Pyruvate Transaminase
GOT	Glutamate Oxaloacetate Transaminase
Hb	Haemoglobin
HDL	High Density Lipoprotein
HIV	Human Immunodeficiency Virus
HL	Hepatic lipase
HRP	Horseradish Peroxidase
IL	Interleukin
INH	Isoniazid
INF	Interferon
IU	International unit
Kg	Kilogram
L	Liter
LDL	Low Density Lipoprotein
LPL	Lipoprotein lipase
µg	Microgram
Mg	milligram
Min	minute
µL	Microliter
Ml	milliliter
µmol	Micromole
M.tb	*Mycobacterium tuberculosis*
Ng	nanogram
NTP	National Tuberculosis control Program
PAP	4-amino antipyrine
Pg	Picogram
PTB	Pulmonary Tuberculosis
R	Reagent
RBCs	Red Blood Cells
RIF	Rifampicin
RNA	Ribo nucleic acid
Rpm	Round per minute

T3	Triiodothyronine hormone
T4	Tetraiodothyronine hormone or Thyroxine
TB	Tuberculosis
TC	Total Cholesterol
TG	Triglyceride
TRH	Thyrotropin Releasing Hormone
TSH	Thyroid Stimulating Hormone
TNF	Tumor necrosis factor
U/L	Unit per Liter
VLDL	Very low Density Lipoprotein
WBCs	White Blood Cells
WHO	World Health Organization