ORIGINAL ARTICLE

Diabetes Mellitus, a Predictor of Cardiovascular Diseases A comparative study

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ABSTRACT

In present study the results were significant<0.005. The individuals of Group A and Group B showed remarkable changes in the protein troponin T levels. The troponin T and blood glucose levels of Group A and Group B, male and female patients were (0.05±0.01, 80.02±11.10, 135.50.20±10.14) (0.05±0.01, 85.05±10.16,133. 40.20±10.15) , (0.08± 0.01,120.2±10.12, 220.20±10.14) (0.07±0.01,115.1±10.11, 220.20±10.14) concluded respectively. The results of this study stated that diabeties mellitus is a major predictor of cardiac diseases and cardiac problems are more common in diabetic patients than non- diabetic.

Keywords: Diabetes mellitus, Cardiovascular disease, predictor

INTRODUCTION

By considering different studies it was concluded that diabetes and cardiovascular diseases are correlated with each other[7]. Diabetes mellitus is a metabolic disorder developed by different factors. Now- a -days diabeties type 2 is mostly developed by internal and external stress. Stress induced diabeties is very common among all over the people[4]. In diabeties type 2, two biological abnormalities are originated, in first condition required quantity of insulin not produced by beta cells of the pancreas and in second situation the resistance of insulin by adipose tissues occurred in obese body[5].

Cardio-diabetological advancements are very important and healthy for the sake of human life. Without coordination of both diabetologists and cardiologists improvement and prediction of different cardialogical life threats cannot handle[6]. When a diabetologist give proper treatment and awareness to their diabetic patients' cardiac complications will be reduced respectively. In other words through a team work a serious life threatening problem can control. In diabetic type 2 patients the risk of risk of both coronary heart disease and stroke increased than the non-diabetic individuals. Even diabetic individuals face more myocardial infarction than others[8].

Different researchers stated that consequences of cardiovascular disorders and levels of cardiovascular risk factors have seen more in diabetic instead of non-diabetic male and female[9]. The cumulative impact of diabetes on coronary heart disease, peripheral vascular disease, or stroke incidence is same in male and female of all age group[7]. Present evidences indicated that prediction and proper medication through regular awareness can reduce the chances of deaths through cardiac diseases in population. Cardiac troponin T (cTnT) and troponin I (cTnI) are structural proteins and act as cardiac ischemia marker their concentration in the blood increase during muscles injury[1].

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MATERIALS AND METHODS

This is a comparative study conducted in Medical units, diabetic center and cardiology ward of Jinnah Hospital Lahore. In this study total 100 patients were selected both male and female and divided them into two different groups. In Group A, 25 male and 25 female non- diabetic cardiac patients were selected. Whereas in Group B, 25 male and 25 female was diabetic with cardiac problems. Cardiac troponin T levels were measured by plasma kit method while glucose levels were measured by colorimetric methods. The raw data operated with SPSS.

RESULTS

In this study the results were significant<0.005. The individuals of Group A and Group B showed remarkable changes in the protein troponin T levels. The troponin T and blood glucose levels of Group A and Group B, male and female patients were (0.05±0.01, 80.02±11.10, 135.50.20±10.14) (0.05±0.01), 85.05±10.16, 133.40.20±10.15), (0.08±0.01, 120.2±10.12, 220.20±10.14) (0.07±0.01, 115.1±10.11,220.20±10.14) concluded respectively.

Group A: Non- diabetic cardiac patients

Parameters	Male diabetic cardiac patients Mean ±SD	Female diabetic cardiac patients Mean ±SD
Plasma cardiac Troponin T levels ng/ml	0.05± 0.01	0.05± 0.01
Glucose levels (Fasting) mg/dl	80.02± 11.10	85.05± 10.16
Glucose levels (Random)mg/dl	135.50.20± 10.14	133.40.20 ± 10.15

<0.005

Group A: Diabetic cardiac patients

Parameters	Male diabetic cardiac pts Mean ±SD	Female diabetic cardiac pts Mean ±SD
Plasma cardiac Troponin T levels ng/ml	0.08 ± 0.01	0.07 ± 0.01
Glucose levels (Fasting) mg/dl	120.2 ± 10.12	115.1 ± 10.11
Glucose levels (Random)mg/dl	220.20 ± 10.14	220.20 ± 10.14

<0.005

DISCUSSION

Plasma cardiac troponin T levels are the good and important biomarker of cardiac diseases when the cardiac muscles ruptured than the concentration of protein troponin T will increased in the blood. Different researchers claimed in their studies that in case of chest pain, myocardial infarction or any other cardiac complication the concentration of troponin T increased in the blood[2]. By considering different studies it was concluded that diabetes and cardiovascular diseases are correlated with each other[4]. Diabetes mellitus is a metabolic disorder developed by different factors. Now- a -days diabetes type 2 is mostly developed by internal and external stress. Cardio-diabetological advancements are very important and healthy for the sake of human life. Cardiac troponin T (cTnT) and troponin I (cTnI) are structural proteins and act as cardiac ischemia marker their concentration in the blood increase during muscles injury[6]. The current study showed the same results like previous studies. In this study the results were significant<0.005. The individuals of Group A and Group B showed remarkable changes in the protein troponin T levels.

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