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RESEARCH ARTICLE

STUDY OF COAGULATION PROFILE IN TYPE 2 DIABETES MELLITUS PATIENTS IN CORRELATION WITH LONG TERM GLYCEMIC CONTROL (HBA1C)

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Abstract

Introduction:-

Background And Objective:-

Diabetes mellitus is a common endocrine disease which is global public health problem . 80% of the diabetic patients were died due to thrombo embolic cardiovascular disease. In patients with diabetes mellitus, persistent hyperglycemia exposes red blood cells to elevated glucose concentration ,thus resulting in glycation of hemoglobin, prothrombin ,fibrinogen and other proteins involved in clotting mechanisms . The glycation results in incomplete activation and function of the clotting cascade. Glycation of intrinsic and extrinsic clotting proteins will decrease the availability of these proteins which affect the clotting capacity. Therefore, this study aimed to investigate the importance of routine determination of PT and APTT in order to assess the coagulation impairment in diabetes mellitus to prevent the thromboembolic cardiovascular diseases . Also to assess the relationship between coagulation impairment and long term glycemic control with reference to HbA1c.

Methods:-

This is a cross sectional study among 200 Type2 diabetes mellitus patients attending outpatient department in Katuri Medical College and Hospital in the medical ward of katuri Medical College and Hospital from june 2019 to march 2020. All Type 2 Diabetes mellitus patients above 40 years with HbA1c>8 were included. Coagulation profile of these patients was studied.

Results:-

The HbA1c levels of diabetic patients with coagulation profile was studied .Out of 200 patients 91 patients were having hba1c >9. 109 patients were having hba1c between 8 to 9. The statistical difference in the P value was < 0.001 and was found to be significant.

Fasting blood glucose levels of diabetic patients with coagulation profile was correlated in this study . Of about 200 diabetic patients 188 patients were having blood sugar >125 mg/dl . 12 patients were having blood sugar under control. Most of the patients with poor glycemic control were 76 having shortened PT and APTT. The statistical difference in the P value was 0.004. There is statistically significant correlation between poorly glycemic control patients and their coagulation profile.

There is statistical significant in the correlation between uncontrolled PPBS and their coagulation profile too.

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Interpretation And Conclusion:-

The high prevalence of altered coagulation profile in patients with DM has been established.
The effect of hypercoagulable state on the microvascular and macrovascular complications in patients with diabetes mellitus should be considered.

Therefore the treatment of hypercoagulable state may have a preventive role in micro and macrovascular complications in patients with diabetes mellitus.

Thus the effective control of glycemic status which leads on to the alteration in the coagulation profile should be emphasized.