A Study of Platelet Indices in Type 2 Diabetes Mellitus Patients

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pp 1–6

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Abstract

Altered platelets have been reported in patients with diabetes mellitus and has been considered as a ‘prothrombotic state’ with enhanced platelet reactivity. They have been associated with increased risk of vascular complications in these patients. Platelet indices correlate with functional status of platelets and is an emerging risk factor of vascular complications in

diabetes. The study was undertaken to know the efficacy of platelet analysis in assessing the prognosis of diabetes mellitus. A prospective hospital based study of platelet parameters MPV, PDW and P-LCR was carried out on 280 cases diagnosed with Type 2 diabetes Mellitus and 280 controls with normal blood glucose levels. The blood glucose levels and HbA1c level were also measured. Statistical evaluation was performed by using Student's unpaired *t* test and Pearson correlation test. The average age of presentation with type 2 diabetes mellitus was 53 ± 5.7 years. The mean duration of diabetes was 4.7 ± 2.5 years. MPV, PDW and P-LCR were significantly higher in diabetics compared to non diabetics (11.3 ± 1.0 vs. 9.0 ± 0.6, 14.2 ± 2.5 vs. 10.7 ± 0.7 fl, 35.0 ± 8.1 vs. 23.0 ± 2.4%). Among the diabetics, MPV, PDW and P-LCR were higher in those with complications as compared to those without complications, which was not statistically significant. The higher values of MPV, PDW and P-LCR indicates that they serve as better risk indicator of initial vascular complications in diabetes mellitus patients and can be used as a simple and cost effective tool to assess vascular events.

Keywords

Mean platelet volume Platelet distribution width Platelet-large cell ratio Diabetes mellitus

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