

prognostic value of increased MPV is still controversial and the reason for high platelet size still unclear⁽¹⁾.

Automated cell counter have been made the platelet volume indices (PVI) like mean platelet volume (MPV), platelet distribution width (PDW), and platelet large cell ratio (P-LCR) are routinely available. The MPV can reflect changes either in the level platelet stimulation and the rate of platelet production so platelet activation can be indirectly and simply measured via MPV⁽⁴⁾.

Patients and methods

This study was designed as cross sectional study. 36 patients admitted to coronary care unit (CCU) in Al Kadhimiya teaching hospital with state of acute coronary syndrome at the period from April –May 2008. This study was approved by the local ethics committee. Patients were divided into 2 groups according to clinical data and patient history with support of cardiac enzyme assay and electrocardiographic (ECG) changes: First group is UA group including 14 patients; Second group is AMI group including 22 patients. All individuals were reviewed for established risk factors like (smoking, diabetes mellitus (DM), hypertension, a previous diagnosis of stable angina) in addition to age and gender. Lipid profile records were not available for most of patients in this study. Those with previous or recent AMI, or cerebrovascular event or valvular heart disease were excluded.

EDTA (ethylenediamino tetra acetic acid) samples of blood drawn at first day of admission of patients were analyzed in an automated hematology analysis system (Sysmex, serial number 1544, version no. 00-17, UA). All patient samples were processed within 2 hours of venipuncture as recommended by Symth et al.⁽¹³⁾ to avoid bias due to excessive platelet swelling which is reported in some

studies secondary to effect of EDTA⁽¹⁴⁾.

Statistical analysis was performed using statistical package for social science (SPSS v.10) on window XP. The chi square test used to compare differences of frequencies in patient characteristics in addition of t-test and correlation analysis. P value ≤ 0.05 or ≤ 0.001 were considered as statistically significant values accordingly.

Results

Thirty six (36) patients were included in this study, 16 were males and 20 were females. The first group, unstable angina (UA) patients, was 14 patients (38%), 4 of them were males (28.6%) and the rest were females (71.4%). Their age range was 40-65 years with mean age \pm SD (standard deviation) of 52.57 ± 9.89 year. The second group, myocardial infarction (MI) patients, was 22 patients (62%), 12 were males (54.5%) while 10 were females (45.5%) with age range 46-80 years and mean \pm SD of 64.18 ± 9.29 year. These two groups shows statistically significant differences concerning their age distribution ($P=0.001$)

The baselines demographic data are shown in (Table 1) which demonstrate a statistically significant differences concerning the smoking history ($P=0.011$), and hypertension ($P=0.032$) with highly significant differences in cardiac enzyme elevation according to the underlying pathogenesis in the 2 groups ($P=0.0001$), however , there were no significant differences in terms of existing previous history of stable angina when compared with their recent presentation as acute coronary syndrome ($P=0.629$).

Platelets volume indices (PVI) were studied using t test between the above 2 groups of presentation and it is found that MPV and P-LCR were the most significant parameters that