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Mini Review

Measuring and Evaluating the Levels of Coagulation Factors and Platelet in the Serum of the Patients with Moderate and Severe Brain Injury

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Brain injury is a common accident and many factors involve in it's occurance. Due to daily increasing in vehicles numbers and some other dangerous factors, Brain injury incidence is increasing day by day. In case it would not be treated on time, it will cause high levels of mortality and disability. Current usual scale to detect the severity of head injury is GCS which although it is beneficial but has many limitations and in most of the time cannot be measured and used appropriately during clinical practice. So it would be necessary to try to find biomarkers that can determine the severity of brain damage in this patients group. This study has been done to determine and compare the levels of coagulation factors and platelet in the patients with moderate and severe brain injury [1-6].

This study is a descriptive analytical one which during that There were 200 patients whom data were collected and included in the study. Demographic information of the patients including their age, sex and etiology of the injury were collected and registered in a specific questionnaire. After examining the patients, their GCS levels were registered and the patients with moderate and severe brain injuries have been included in the study [7-12]. After getting their blood samples, the levels of PT, PTT, INR and Plt were measured and registered. Then the data were collected and evaluated with SPSS software.

There were some criteria to determine the inclusion or exclusion of the patients in this study. Inclusion criteria were:

a. The patients with moderate and severe brain injury and

b. Patients or their family consent to be involved in the study. Exclusion criteria was the impossibility to measure the coagulation factors levels in the patients due to various reasons (Table 1).

Table 1

Questionnaire sample
Patients data including age and sex
Etiology of the injury
GCS level
Severity of the head injury based on GCS: moderate – severe
Lab findings and results of measuring the levels of: PT, PTT, INR , Plt

The level of PT in the patients with acute and moderate brain injury were 12+-1.15 and 11.63+-0.89 and according to the t-test there was no difference between two groups (p=0.3) .The level of PTT in the patients with acute and moderate brain injury were 32.3+-2 and 31.37+-1.75 and according to the t-test there was no difference between two groups (p=0.17) .The level of INR in the patients with acute and moderate brain injury were 1.73+-0.61 and 1.21+-0.3 and according to the t-test there was a difference between two groups (p=0.001) .The mean level of Plt in the patients with acute and moderate brain injury were 309.2+-36.16 and 283.23+-42.13 (*1000) and according to the t-test there was no difference between two groups (p=0.9) [13-22].

The results of this study show that the levels of the coagulation factors in the patients with brain injury would be changed and these can be used in clinical practice to determine the patient's conditions and take appropriate decision.

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