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ROLE OF PLATELET-WBC (PWR) RATIO AS A PROGNOSTIC MARKER OF CEREBROVASCULAR ACCIDENT.

Pathology

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ABSTRACT

Cerebrovascular accidents are a leading cause of patient morbidity and mortality worldwide.The symptoms include sudden loss of vision,unconsciousness,weakness in Contralateral upper and lower limbs, seizures and loss of vision. Several studies have concluded that the lower the platelet count and the higher the number of white blood cells in ischemic stroke patients will result in a more severe stroke and had worsen prognosis. Platelet and white blood cells counts can be converted into Platelet-to-White Blood Cell Ratio (PWR) which is a comparison between the number of platelets and white blood cells, so the higher PWR will provide better clinical outcomes.

KEYWORDS

AIM:
To study platelet to WBC ratio in as a prognostic marker in patients suffering from acute ischemic stroke.

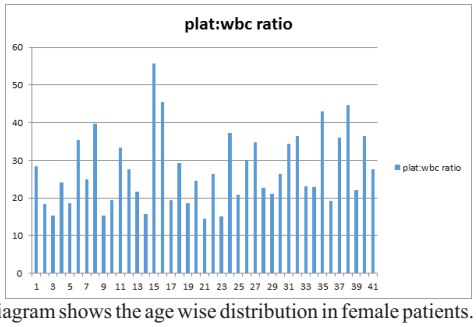
MATERIALS AND METHODS:
A retrospective study of 64 cases of acute ischemic stroke were studied in Owaisi hospital and research centre and Princess Esra Hospital and CBC reports and platelet:white blood cells ratio were analysed. After routine informed consent from patient, 2ml venous blood was collected from antecubital vein under aseptic precautions in a K2EDTA vacutainer. Samples were processed on Sysmex automated 5 part differential cell counter.

INCLUSION CRITERIA:
Cases diagnosed as acute ischemic stroke between December 2020 to Feburary

EXCLUSION CRITERIA:
Cases diagnosed as hemmorhagic stroke or any other disease mimicking stroke such as hypoglycemia.

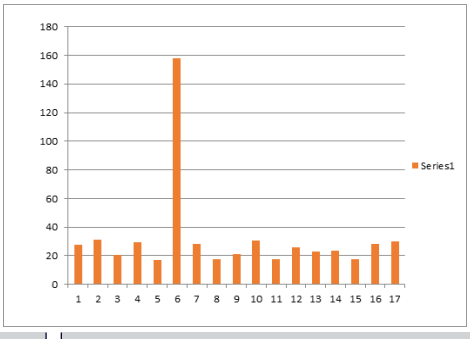
RESULTS:
The following diagram shows age wise distribution of ischemic stroke in male patients.The majority of the study patients fall in group 41-80.

Male distribution.

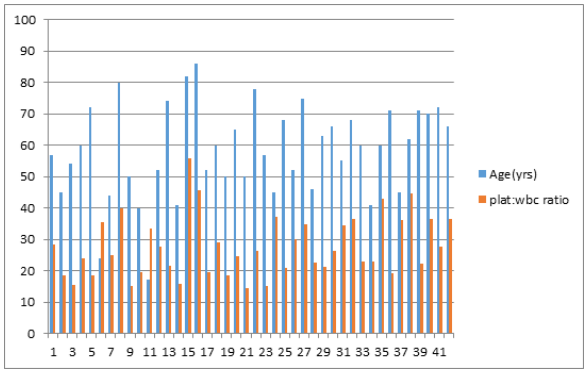


This diagram shows the age wise distribution in female patients.

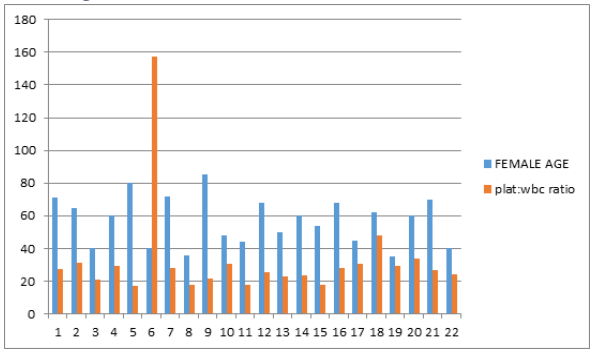
Female distribution.



Male age and platelet:WBC ratio



Female age and N:L ratio



DISCUSSION:
Stroke is a leading cause of patient mortality and morbidity worldwide. In our study of 64 cases,there was male preponderance ,41 out of 64 patients,ie,64% were males and 23 out of 64 ,ie,23%were female patients.

Out of these the majority of both males and female patients had neutrophilic leukocytosis along with an elevated platelet:WBC ratio while a minority had relative neutrophila and an elevated platelet:WBC ratio.

The majority of the male patients fell between the age group 41-80,while the female patients fell between the age group 31-80.

In the present study majority of the patients male and females were found to have platelet:WBC ratio>20 in all age groups.

Lisda Amalia et al [1] describes the significance of platelet:WBC ratio as having clinical significance in stroke patients.

PWR was associated with severity of acute ischemic stroke,

cardioembolic stroke had higher PWR compared with atherothrombotic stroke. PWR had a strong correlation with NIHSS. The higher PWR will provide higher NIHSS and has positive effect on clinical outcome using NIHSS tools in acute ischemic stroke patients

CONCLUSION:

The study concludes that the platelet:WBC ratio can be used as a predictive and prognostic marker in patients suffering from cerebrovascular accident(acute ischemic stroke).Overall Stroke patients have an elevated PWR.Patients suffering from acute ischemic stroke have a worse prognosis have a low platelet:wbc ratio compared to those patients that have a high platelet:WBC ratio.

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