



ROLE OF NEUTROPHIL- LYMPHOCYTE RATIO AS A PROGNOSTIC MARKER OF CEREBROVASCULAR ACCIDENT

Pathology

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KEYWORDS

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.

AIM

To study neutrophil to lymphocyte 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 neutrophil to lymphocyte 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 February 2021.

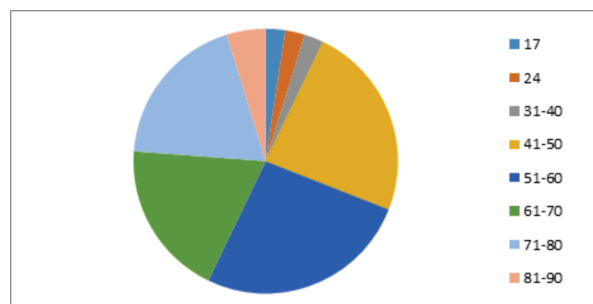
Exclusion Criteria:

Cases diagnosed as hemorrhagic stroke or any other disease mimicking stroke such as hypoglycemia.

Results:

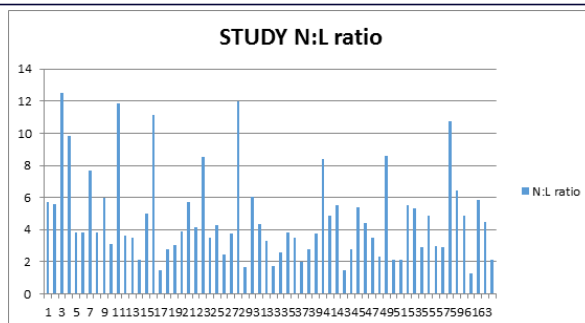
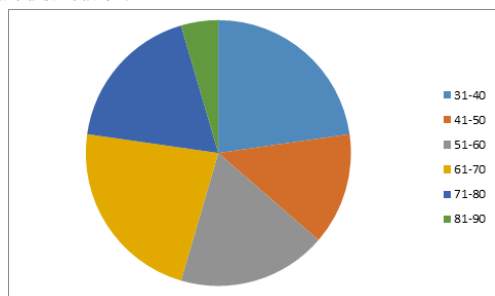
The following diagram shows age wise distribution of ischemic stroke in male patients. The majority of the study patients fall in group 41-80.

Male distribution.

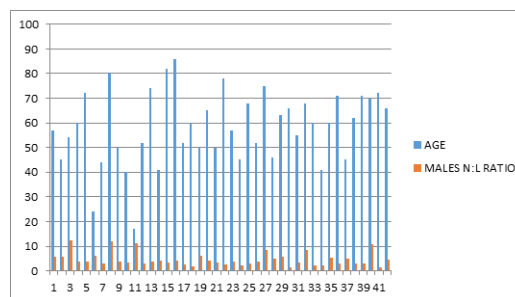


This diagram shows the age wise distribution in female patients.

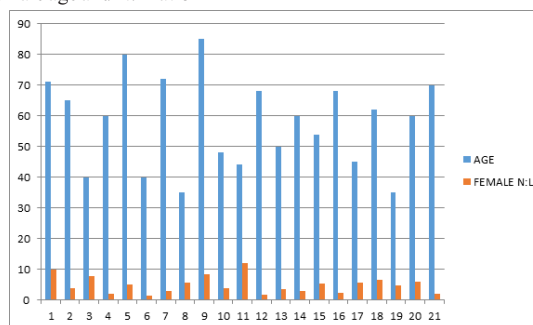
Female distribution.



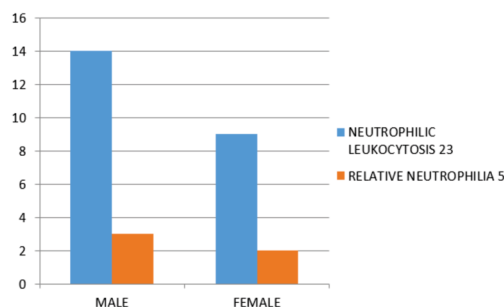
Male age and N:L ratio



Female age and N:L ratio



A comparison was done between the patients who had relative neutrophilia and those that had neutrophilic leukocytosis.



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, i.e., 64% were males and 23 out of 64, i.e., 23% were female patients.

Out of these the majority of both males and female patients had neutrophilic Leukocytosis along with an elevated N:L ratio while a minority had relative neutrophilia with an elevated N:L 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 N:L ratio >2 in all age groups and if the patient had neutrophilic leukocytosis or relative neutrophilia on CBC reports. Si Yong Song et al² describes the significance of N:L ratio as having clinical significance in stroke patients. Milena Switonska et al¹ describes hemorrhagic transformation of ischemic stroke in patients with an elevated N:L ratio.

Conclusion

The study concludes that the N:L ratio can be used as a predictive marker in patients suffering from cerebrovascular accident (acute ischemic stroke). Patients suffering from acute ischemic stroke have an elevated N:L ratio. And N:L ratio can be used as a predictive and prognostic marker in patients presenting to hospital setting without clear cut symptoms of stroke but with an elevated N:L ratio.

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