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# Poster Presentation

## Evaluation of Combining Diffusion-Weighted Imaging-Alberta Stroke Program Early CT Score (DWI-ASPECTS) and Neutrophil-to-Lymphocyte Ratio in Predicting Early Seizures after Ischemic Stroke

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### *Abstract*

***Introduction:*** Post-stroke seizure (PSS) is a critical complication of acute ischemic stroke (AIS). Early risk prediction can allow clinicians to plan effective management or prevention. This study aimed to determine whether assessing Diffusion-Weighted Imaging-Alberta Stroke Program Early CT Score (DWI-ASPECTS), and neutrophil indices allow for determining the risk of PSS. ***Materials and Methods:*** This prospective study included AIS patients with cortical involvement admitted to a single academic center between January 2020 to October 2023. For all included subjects, DWI-Brain MRI, blood neutrophils, and platelet counts were assessed and the DWI-ASPECTS score was calculated. Then, the patients were followed up for 6 months in terms of PSS occurrence. Patients with at least one PSS entered the PSS group and patients without any PSS entered the non-PSS group. For statistical analysis, imaging and laboratory data were compared between two groups. Logistic regression was used to identify the association between DWI-ASPECTS and neutrophil indices, with early PSS. Finally, the sensitivity and specificity of these variables for PSS were estimated. ***Results:*** A total of 309 were entered in the final analysis. The neutrophil-to-lymphocyte ratio (NLR) and DWI-ASPECT were significantly associated with early PSS with OR of 1.13 and OR of 0.74 respectively ($P<0.05$). Statistical analysis showed that, a combination of DWI-ASPECTS, NLR had an area under the curve (AUC) of 0.72 for the occurrence of early PSS. ***Conclusion:*** DWI-ASPECTS and NLR are associated with the occurrence of early PSS after cortical ischemic stroke. A combination of these factors had higher accuracy for PSS prediction rather than each factor alone. Our findings may be useful for determining the risk of PSS if verified in future works.

***Keywords:*** 1. Inflammation 2. Risk Management 3. Patients

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