Comment on: Artificial-Intelligent Prediction Model of Occurrence of Cerebral Vasospasms Based on Machine-Learning

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We would like to comment on the publication "Artificial-intelligent prediction model of occurrence of cerebral vasospasms based on machine-learning."[1] Developing an artificial-intelligence (AI)-based prediction model for symptomatic cerebral hemorrhage (SAH) subsequent to aneurysm rupture was the goal of this work. The cerebral hemorrhage or consequences cannot be reliably predicted using the current rating measures. Using the R environment, the researchers created an AI program to analyze data from 87 SAH patients using the support vector machines (KSVM) classification technique. The model's accuracy range for predicting cerebral hemorrhage symptoms was 61 to 86%. Different incidence rates of cerebral hemorrhage across different dimensions and types of therapies were identified by subgroup analysis.

The study's accuracy range reveals variability, which could be a result of flaws in the model or dataset. The reliability of the prediction may be impacted by the small sample size and restricted number of patients in the validation and testing series. Furthermore, the study lacked specific details regarding the weighting and interactions of the AI model's variables. Furthermore, there was no performance benchmarking against current prediction models. Expanding the sample size will be the main focus of future research in order to strengthen the prediction model's robustness. The accuracy of the model might be increased by adding more variables and a larger range of patient data. An evaluation of the algorithm's performance that is more thorough will be possible through validation using outside data sets and comparisons with other predictive models. Longer-term research can evaluate the model's effectiveness in clinical settings and how it affects patient outcomes.

Predictive accuracy may increase with the advent of sophisticated AI techniques like deep learning or clustering approaches. Incorporating real-time input data and consistently gaining knowledge from novel scenarios could enhance the model's flexibility and precision. It might be easier for physicians to employ predictive models in actual clinical settings if they have an intuitive user interface. Furthermore, investigating customized predictive methods based on unique patient profiles can contribute to the provision of more accurate risk evaluations.

Authors' Contribution
H.P. is responsible for 50% of the ideas, writing, analyzing, and obtaining approval, while V.W. handles the remaining 50%, focusing on ideas, supervision, and approval.

Note
The author use language editing computational tool in preparation of the article.

Conflict of Interest
None declared.

Reference
1 Lintas K, Rohde S, Mpoukouvala A, El Hamalawi B, Sarge R, Mueller OM. Artificial-intelligent prediction model of occurrence of cerebral vasospasms based on machine-learning. J Neurol Surg A Cent Eur Neurosurg 2024. Doi: 10.1055/a-2402-6136