

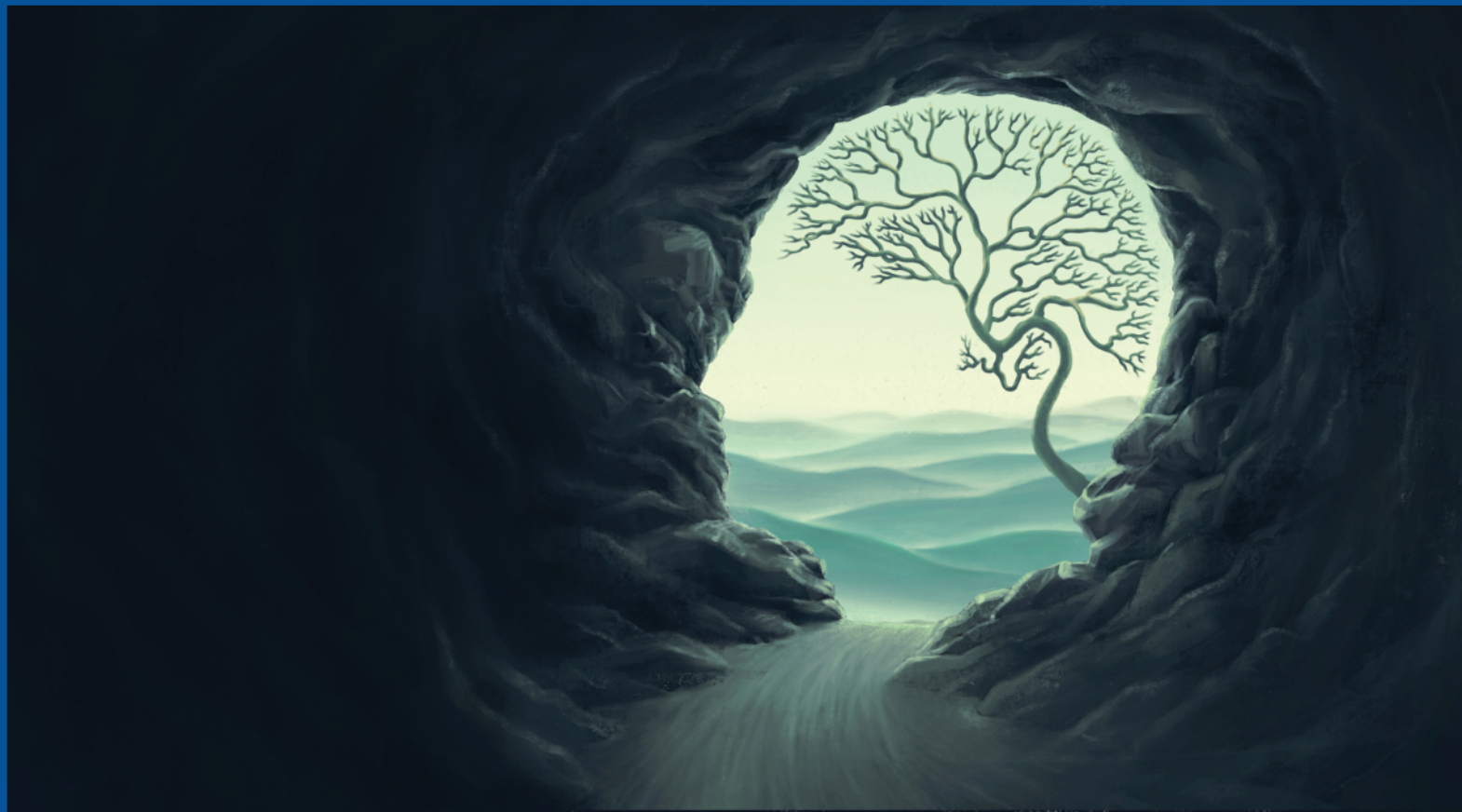
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FOR STROKE PRACTITIONERS AROUND THE WORLD

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Aims and Scope

International Journal of Stroke is the only, truly international stroke journal. We focus on the clinical aspect of stroke with basic science contributions in areas of clinical interest. To facilitate the international nature of the journal, our Associate Editors from Europe, Asia, South America and North America coordinate segments of the journal. These segments are Reviews, Leading Opinions, Research, Panorama, Clinical Trial Protocols and Guidelines. *International Journal of Stroke* is fully peer-reviewed.

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Status Examination (K-MMSE), computerized neurocognitive test (CNT), Korean version of the Modified Barthel Index (K-MBI), and functional independence measure (FIM) at admission to the rehabilitation unit in the subacute stage following stroke and 4 weeks after initial assessments. Machine learning methods, such as support vector machine, k-nearest neighbors, random forest, and voting ensemble models, and statistical analysis using logistic regression were performed.

Results: PSD was successfully predicted using a support vector machine linear algorithm [area under curve (AUC) = 0.711, accuracy = 0.619]. PSD prognoses could be predicted using a support vector machine with a radial basis function kernel function (AUC = 0.830, accuracy = 0.771). The statistical method did not have a better AUC than that of machine learning algorithms.

Conclusions: We concluded that the occurrence and prognosis of PSD in stroke patients can be predicted effectively based on patients' cognitive and functional statuses using machine learning algorithms.

P324 / #1594

Topic: AS33 Data Sciences and Artificial Intelligence

ASSESSMENT OF CEREBRAL AUTOREGULATION IN REAL TIME

E-POSTER VIEWING

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Background and Aims: The use of cross-spectral analysis of spontaneous slow oscillations of cerebral and systemic hemodynamics with the determination of phase shift (PS) reflects the state of cerebral autoregulation (CA) reliably. However, this assessment of CA is carried out retrospectively after the studies performed. At the same time, CA-oriented therapy is becoming increasingly important with obtaining data about state of CA in real time, especially in intensive care. **Aim:** to develop a software and hardware complex for assessment the state of CA using cross-spectral analysis in real time.

Methods: The analysis of blood flow velocity and systemic blood pressure signals obtained using Multi Dop X and CNAP was performed within a frame sliding along the signals. For the signals, received in the frame, coherent components, belonging to a given frequency range (50-150 mHz), were isolated. The PS was determined.

Results: During the examination of healthy volunteers, continuous recording of indicators was carried out for 30 minutes. The PS was in the range of 0.9–1.4 rad. Hypercapnic and hypocapnic loads led to a significant decrease and increase of PS by 25 and 43%, respectively. During the examination of patients with atherosclerotic carotid stenosis, a decrease in PS (0.1–0.5 rad) was observed on the pathology side and less pronounced responses to capnic effects (by 10 and 20% respectively).

Conclusions: The results of the conducted studies confirm the possibility of using the software and hardware complex for continuous monitoring of CA for the purpose of diagnosis and timely correction in conditions including intensive care

P325 / #1544

Topic: AS33 Data Sciences and Artificial Intelligence

CLINICAL APPLICATION OF THE REAL-TIME ARTIFICIAL INTELLIGENCE IN THE DETECTION OF HEMORRHAGIC STROKE

E-POSTER VIEWING

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Background and Aims: The study of acute stroke is increasingly utilizing image analysis powered by artificial intelligence (AI). Its use to detect and quantify bleeding suspect hyperdensities in non-contrast-enhanced head CT (NCCT) images may aid clinical decision-making and expedite stroke care

Methods: Recently commercially available a novel uAI-based algorithm was used to assess the NCCTs of 84 patients with suspected acute stroke for the presence or absence of acute intracranial hemorrhages (ICH). Three neuroradiology residents evaluated the CT scan report. A professional neuroradiologist established the final report. For the detection of ICH and intraparenchymal hemorrhage (IPH), the specificity, sensitivity, and area under the curve were calculated

Results: There were 41 cases of ICH that were positive and 43 cases that were negative. The uAI has an accuracy of 96.7 percent, a sensitivity of 94.6 percent, and a specificity of 98.2 percent. ICH was further classified into the following subtypes: intraparenchymal, intraventricular, epidural/subdural, and subarachnoid, with 93.8, 96.4, 96.3, and 91.2 percent true positive rates, respectively. The true positive rates for ICH were 75.4, 100, and 100 percent, respectively, by volume [small (5 mL), medium (15–25 mL), and big (>25 mL)]. There were 25 cases of positive LVO (large vessel occlusion) and 59 cases of negative LVO. The LVO tool achieved 96.5 percent accuracy, 98.4 percent sensitivity, and 98.5 percent specificity.

Conclusions: In this dataset, the AI-based approach accurately determined the presence or absence of acute ICHs and quantified IPH volumes. The software's superior performance in early time periods is most likely explained by the subtle changes

P328 / #1275

Topic: AS34 Stroke and Social Media: Information, Advocacy, and Empowerment

THE USE OF SOCIAL MEDIA PLATFORMS IN STROKE CARE: A SYSTEMATIC REVIEW

E-POSTER VIEWING

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Background and Aims: Stroke is a leading cause of death and disability globally. Social media platforms (SMP) enable users to generate content, provide high-level interaction, and permit integration with other sites. Their omnipresence and popularity, along with an interactive format, enable SMPs to potentially serve as powerful tools for engagement and education, and research for persons with stroke and their caregivers. In this systematic review, we aimed to explore the scope of SMP in care and research among persons with stroke.

Methods: PubMed database was searched using Medical Subject Headings terms and exploded keywords. The search retrieved 556 abstracts, which were screened by two reviewers. Of these, 13 studies met the review inclusion criteria. Given the small number of studies and heterogeneity of outcomes, quantitative analysis was not possible.

Results: Studies described the use of YouTube (n=5), Twitter (n=5), Facebook (n=2), and both Facebook and Twitter (n=1). Four studies assessed quality and accuracy of videos available on Youtube for stroke patients and caregivers. Three studies used social media to research links between role of gender and stroke descriptors on social media platforms,