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**Predictors for recurrent spontaneous intracerebral hemorrhage: A retrospective study**

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**Aim:** The aim of this work was to determine predictors for recurrence of intracerebral hemorrhage (ICH), which may allow the identification and more appropriate management of patients at higher risk of recurrent ICH.

**Introduction:** The prognosis of recurrent bleeding seems to be worse than that of the first ICH. However, only a limited number of studies report the frequency of recurrence in ICH and attempt to characterize which factors may be associated with tendency for repeated hemorrhagic events.

**Methods:** We analyzed data from 549 patients admitted for treatment of ICH at the Unit of Faro of the Algarve Hospital Center, followed over a period of 5 years. 189 patients with a Rankin at discharge equal to 6 were excluded from the analysis.

**Results:** We identified 24 patients (6.7%) with recurrent ICH. Recurrence was significantly more frequent in woman (10.9%) than in men (4.4%) (p < 0.05). By comparing patients with recurrent ICH with patients with isolated ICH, we found that recurrence was associated with more advanced ages at the time of the first ICH, but only for men (76 years for recurrent ICH and 68 years for isolated ICH) (p < 0.05). There was a tendency towards recurrence when the bleeding was lobar (33% of recurrence, and 24% for non-lobar bleedings), although no statistical significance could be found. Other factors, such as previous hypertension were not associated with increased risk of recurrent ICH.

**Conclusion:** In this series of patients, we identified sex and age as predictors for ICH recurrence.

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**PS133**

**Randomized study to compare two methods of e-learning of ECG interpretation among medical students**

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**Aim:** To compare the effectiveness of two methods of ECG e-learning among medical students: collaborative e-learning (C-el) and individual e-learning (I-el).

**Introduction:** Electrocardiogram (ECG) interpretation is an essential skill in medicine. The best method of ECG education has not been determined.

**Methods:** Sixty 5th-year students from the Jagiellonian University Medical College were randomly assigned in a 1:1 ratio to the C-el and I-el groups. C-el group students were further randomly divided into 6 subgroups of 5 students. Students from the I-el group received by e-mail an ECG recording with comprehensive description every second day; at that time students from the C-el group received the ECG recording without any description. C-el students were encouraged to cooperate in analyzing the ECG in subgroups using internet platform and were expected to submit interpretation of the ECG recording to coordinator after 48 h. Afterwards they received comprehensive description of the ECG. Before starting the study all students participated in a pretest assessing their basic theoretical knowledge. The effects of e-learning were assessed at a final e-test. The main endpoint of the study was the number of students who passed the final e-test.

**Results:** Basic knowledge was similar in both study groups. Students from the I-el group answered correctly to 9.0 ± 1.0 (90 ± 10%) and from the C-el group to 9.5 ± 0.6 (95 ± 6%) questions, p = 0.07. The main endpoint was achieved more frequently in the C-el than in the I-el group: 17 (63%) vs 10 (35.7%) students respectively, p = 0.045. C-el group students, as compared to I-el group students, achieved more points in the final e-test (12.3 vs. 11.0 points respectively, p = 0.036) and also better results in ECG interpretation (4.1 vs. 3.4; p = 0.03).

**Conclusion:** Collaborative e-learning of electrocardiography in 5th year medical students is superior to individual e-learning.

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