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Objective

To compare the application of tDCS in subacute and chronic stages of stroke in order to define an optimal time-window for stimulation.

Methods

Anodal and sham tDCS was applied to M1 of 13 stroke patients in balanced cross-over design during subacute and chronic stages of stroke. The Jebsen-Taylor Hand Function test, evaluating the time required for performance of everyday motor tasks, was employed.

Results

The repeated-measure ANOVA showed significant influence of stimulation type, the test performance time relative to stimulation (during or after tDCS) with no overall influence of the stage of stroke. The interaction TYPE*TIME*STAGE was significant. The effect after anodal tDCS in the subacute stroke was significantly higher compared to the effects in all relevant conditions including the chronic stage (Fig. 1). Yet, on the individual level, this type of response was present only in six patients (Group 1). On contrary, patients of Group 2 showed small responses (1–1.3% improvement compared to sham) in the chronic stage. These effects were significantly higher compared to those in the subacute stage (Fig. 2). All Group 1 patients were women; six men and one woman belonged to Group 2. No other difference in clinical characteristics between groups was seen.

Conclusions

For some patients tDCS treatment in the subacute stage of stroke can be superior over the treatment in the chronic stage. However, the possibility that other patients might show opposite effects, cannot be ruled out.

WCN19-1088

Free Papers 01 - Stroke 1

Association between admission blood fibrinogen-albumin ratio and clinical outcomes after acute lacunar infarction

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Objective

We aimed to investigate the influence of admission blood fibrinogen-albumin ratio (FAR) on 3-month disability and death in Chinese patients with acute lacunar infarction.

Methods

Consecutive patients with acute lacunar infarction who were admitted within 7 days of stroke onset between January 2012 and December 2016 were prospectively enrolled from Chengdu Stroke Registry. Patients were classified into two groups according to their FAR values on admission, using an optimized FAR cut-off value determined by ROC curve analysis. Univariate analysis and multivariable logistic regression were performed to determine whether higher FAR values were associated with 3-month disability and mortality.

Results

A total of 371 patients (mean age 64.8 ± 12.9) were analyzed in the study, of whom 128 (34.5%) were females. Patients were classified into high FAR group (≥ 0.077) versus low FAR group (<0.077) based on the optimal cutoff value of 0.077. Patients from high FAR group had significantly higher risk of 3-month disability (25.3% versus 12.1%, $p = 0.006$) and 3-month disability/mortality (29.2% versus 13.3%, $p = 0.001$) compared with patients with low FAR values. After adjustments by multivariable logistic regression, high FAR were still significantly associated with 3-month disability ($p = 0.014$, OR = 2.35, 95% CI 1.19-4.65) and disability/mortality ($p = 0.005$, OR = 2.56, 95% CI 1.33-4.98).

Conclusion

Higher FAR on admission were independently associated with disability and disability/mortality at 3 months since onset among acute lacunar infarction patients. This needs to be verified in future studies with larger sample.

Keywords: Lacunar infarction, Stroke, Fibrinogen, Albumin, Disability, Death

WCN19-1028

Free Papers 01 - Stroke 1

Intracranial atherosclerotic disease among Saudis, prevalence, characteristics and predictors of outcome

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Background

Intracranial Atherosclerotic Disease (ICAD) presents with high mortality and morbidity worldwide. Little is known about ICAD in Arab countries, we aim to present an extensive view of the disease burden, characteristics and outcome in Saudi Arabia. ICAD found to be dependent on ethnicity with increased risk among Asians. Since there are ethnic diversity backgrounds in Saudis this study of increased importance to explore those differences.

Methodology

Institutional Review Board (IRB) approval has been obtained. This ongoing investigation planning to include total of 1379 stroke patients, meanwhile the analysis was conducted on 460 patients. All stroke patients admitted to the stroke unit at National Guard Hospital, Saudi Arabia, Riyadh from February 2016 to July 2018 records were reviewed retrospectively. After excluding all hemorrhagic stroke, sinus thrombosis and stroke mimics cases, we enrolled all ischemic stroke and transient ischemic attack cases.

Results

Of 460 patients admitted with ischemic stroke, 77 (16.7%) found to have ICAD. The mean age was 61 (SD ± 12) years and 304 (66.1%) were male. 293 (63.7%) patients were diabetic, 330 (71.7%) had hypertension, 176 (38.3%) were overweight and 149 (32.4%) had hyperlipidemia. Diabetes was significantly associated with ICAD (p-value=0.01).

Conclusion

ICAD presented with high proportion of 16.7% among Saudi stroke patients. In our cohort, diabetes mellitus was the strongest predictor among ICAD patients. These findings should increase the attention of physicians to ICAD in terms of treatment, diagnosis, prognosis and clinical follow up.

Keywords: Intracranial, Atherosclerosis, Ischemic Stroke, Saudi, Prevalence

WCN19-1812

Free Papers 01 - Stroke 1

Women vs men. sex differences outcomes after mechanical thrombectomy in acute ischemic stroke

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Background

A difference between genders in the field of ischemic stroke has been often reported. We aim to evaluate sex differences in strokes quality metrics, treatment and outcomes of acute stroke in our daily practice.

Material and methods

We performed a retrospective analysis of large vessel occlusion strokes treated with mechanical thrombectomy up to 24 h from symptoms onset from 2013 to 2018. Sex-differences have been evaluated. The primary outcome measured was modified Rankin Scale (mRS) ≤2 at 90 days. Secondary outcomes included successful reperfusion defined as modified Thrombolysis in Cerebral Infarction (mTICI) scale 2b/3, mortality rate at 90 days and symptomatic intracranial hemorrhage (SIH).

Results

A total of 224 stroke patients were included: 116 women and 108 men with similar baseline characteristics. Compared to men, women were significantly older (mean age 70 SD 15 vs 65 SD 14 years p=0.008) and median time from symptoms onset to hospital arrival was 315 in women (IQR 145-510) and 203 in men (IQR 115-360) p=0,015. The rate of mRS≤2 was 45,7% of woman vs 53.7% of men (p=0.28 OR: 1.37 IC 0.81-2.33) Successful reperfusion was achieved in 73% of women vs 81.5% of men (p=0.18 OR: 0.61 IC: 0.32–1.16). Mortality rate at 90 days was 16.4% vs 18.5% respectively (p=0.80 OR:0.86, IC: 0.43-1.72) and SIH was evidenced in 11 patients in both sexes (p=1 OR: 1.08, IC: 0.44-2.61)

Conclusion

Our single center study suggests that women are equally likely to achieve good outcomes as men after endovascular treatment despite been older and the delay in hospital arrival.

WCN19-1670

Free Papers 01 - Stroke 1

Clinical interventions to manage sleep apnea in patients with stroke: Systematic review and meta analysis of the ongoing clinical trials

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Introduction

Obstructive Sleep Apnea (OSA) has been found to be very common in stroke patients, which impedes stroke rehabilitation and recovery. Although the negative impact of sleep apnea on the clinical course of stroke is well known, data regarding non-invasive ventilation and its clinical implications in limited.

Methods

We reviewed ongoing trials from WHO- ICTRP (www.who.int/ictrp/search/en), www.clinicaltrials.gov, last on May 5, 2019 with key word 'stroke', 'sleep apnea', 'intervention', without any date restrictions in the electronic searches. SPSS was used for statistical analysis

Results

Seven trials (including, Reverse-STEAL, eSATIS, SAHS, SAS-CARE) are recruiting 1026 patients; with three multicentric trials (Germany (2 trials) and Switzerland (1 trial) as the leads) and Canada, USA, France and China conducting one trial each. Registration date ranged from July 2010 till September 2018, with randomised, parallel designed studies. The masking methods includes open label, double blind and triple blind in four, two and one trial each, respectively. The primary purpose is treatment in five trials, prevention and supportive care in one trial each. The mean estimated enrollment of participants is 147 (SD ± 103, maximum 300, minimum 40, 95% CI 52 to 242). The cumulative duration is 45 months, with mean duration 6.4 months (SD ± 7.8, maximum 24, minimum 3, 95% CI -0.81 to 14).

Discussion

This is the first ever systematic review for emerging primary outcomes based on modified Rankin score, neurological recovery and functional independence scale for the device-based interventions to manage sleep apnea in patients with stroke.