WAKE-UP STROKE: TREATMENT AND OUTCOME

Author: Inese Janpaule[1]
Co-Authors: Dr. Med. Tatjana Muravska[2], Daina Šapovalova[1], Yana Solskaya[1], Dr. Med. Andrejs Millers[2,3]
Scientific research supervisor: Dr. med. Evija Miglāne[2,3]
[1] Riga Stradiņš University, Faculty of Medicine, Latvia
[2] Pauls Stradins Clinical University Hospital, Clinic of Neurology, Latvia
[3] Riga Stradiņš University, Department of Neurology and Neurosurgery, Latvia

Key words. Wake-up stroke; thrombolysis; severity

Introduction. Wake up stroke is an ischemic stroke which occurs during sleep and patients realize stroke symptoms shortly after waking up. Up to 25 % of all strokes occur during sleep. There are observations that point toward strokes during sleep being more severe and having worse clinical outcome. As a result of uknown onset of symptoms, this large group of patients is excluded from thrombolysis. To indentify potentially salvageable tissue in wake-up stroke patients who may benefit from thrombolysis, multimodal imaging approaches such as perfusion CT, should be performed.

Aim. To analyze incidence of wake-up strokes and reperfusion treatment outcome in patients with wake-up strokes.

Results. Retrospective study assessed all of patients medical documentation in Pauls Stradins Clinical University Hospital Clinic of Neurology during the period from 1 January 2014 to 31 December 2014. 85 patients met the criteria of wake-up stroke – acute cerebral stroke with neurological defects noticed upon waking. The incidence of wake up stroke was 7,2% (85) out of all 1185 patients. The average age was 71,7 years, women were slightly older than men (73,4 and 69,6 years old). There were slightly more women in wake up stroke group – 55,3% (47). Compared to the known onset time stroke group, age and sex distribution apperead to be similar. NIHSS (National Institutes of Health Stroke Scale) on hospital admission were greater in wake-up stroke group compared to known onset time stroke patients, respectively, 10,6 and 8,8, indicating that wake up stroke may be clinically more severe. It also evidenced by the longer hospital stays – 10,0 days, compared to the known onset time stroke patients – 9,6 days. 13% (11) of 85 wake-up stroke patients were treated using reperfusion therapy such as thrombolysis or/and thrombectomy. Average NIHSS score in this group on hospital admission was 12,5 but in group without reperfusion therapy – 10,1. Reperfusion therapy improved neurological function on discharge – NIHSS decreased by 5,9, while in patients wihout treatment, just by 4,5. Favorable outcome defined by modified Rankin Scale by a score of 0-3 were more frequently observed in patients who recieved reperfusion, compared to group where it was not used, respectively 64% and only 49% of cases. 8 patients died in a group that didn't recieve reperfusion therapy and none in reperfusion therapy group.

Conclusions. Wake-up stroke patients may benefit from reperfusion therapy, achieving significant improvement, if correclty selected using perfusion CT.