Delirium in the acute phase of stroke

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Abstract

The diagnostics of delirium in neurocritical care is complicated, as the symptoms of delirium overlap with those of the primary brain injury. Another pitfall of delirium in neurocritical care is differential diagnostics of nonconvulsive status epilepticus (NCSE), which can mimic delirium.

The aim of this study was to compare two Czech versions of already validated screening tools - the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) and the Intensive Care Delirium Screening Checklist (ICDSC) in a cohort of stroke patients. We also aimed to assess nonconvulsive status epilepticus (NCSE) in acute phase of stroke.

The study cohort consisted of ischaemic/haemorrhagic stroke patients, in whom evaluation for delirium presence could be performed within 24 hours after admission to the Neuro-intensive care unit/Stroke unit. Excluded were patients with known pre-stroke brain damage. The presence of delirium was assessed daily using the CAM-ICU and the ICDSC and as a reference we used expert evaluation based on the Diagnostic and Statistical manual of Mental Disorders, fifth edition criteria. A 10-minute native electroencephalography recording was performed in patients with delirium presence confirmed by the expert to exclude the NCSE.

We enrolled 168 patients, who met the inclusion criteria, of whom 30 were subsequently excluded leaving 138 for the final analysis. Delirium developed in 38 patients (27.54%). Results in Table 1. We disclosed no episode of NCSE in any of our stroke patients.

Our findings suggest that ICDSC may be more eligible tool for delirium screening than the CAM-ICU in the patients with neurological deficit as it is not fully dependent on patient´s cooperation and verbal assessment, which can be limited due to aphasia or altered mental status. NCSE seems to be less frequent in the acute phase of stroke than previously reported, although the results may be affected by our inclusion criteria.

	CAM-ICU	ICDSC
Sensitivity (95 % CI)	75.63 % (66.91-83.03)	91.60 % (85.09-95.90)
Specificity (95 % CI)	96.74 % (95.15-97.92)	95.33 % (93.50-96.76)
Positive predictive value (95 % CI)	79.65 % (72.10-85.56)	76.76 % (70.21-82.24)
Negative predictive value (95 % CI)	95.93 % (94.49-97.00)	98.54 % (97.38-99.19)
Accuracy (95 % CI)	93.70 % (91.82-95.26)	94.79 % (93.04-96.20)

Table 1: Performance test characteristics for CAM-ICU and ICDSC in all patients

Recent Publications

1. Hrezova L, Bednarik J (2022) Management deliria v neurointenzivní péči v České republice – dotazníková studie *Delirium management in neurointensive care in Czech republic – survey doi:10.48095/cccsnn2022325*
2. Hrezova L, Bednarik J (2022) Cerebrální hyperperfuzní syndrom – vzácná komplikace revaskularizačního výkonu *Cerebral hyperperfusion syndrome – a rare complication of revascularization procedure doi:10.48095/cccsnn202289*
3. Bednarik J (2023) From degenerative compression of the cervical spinal cord towards degenerative cervical myelopathy *doi:10.36290/neu.2022.044*
4. Kadanka Z, Bednarik J (2023) Degenerative cervical myelopathy - clinical manifestation, diagnosis and practical management doi: 10.36290/neu.2022.061
5. Kadanka Z, Jura R, Bednarik J (2021) Vertigo in Patients with Degenerative Cervical Myelopathy doi: 10.3390/jcm10112496

Photograph



Biography

Dr Lucia Bakosova (born Hrezova)

Dr Bakosova is a PhD student of Neurology with focus on delirium in neurointensive care, studying under the supervision of prof. Josef Bednarik, currently working at Neurology department University Hospital Brno, Czech republic. She graduated Medical faculty of Masaryk University, Brzno Czech republic in 2019.

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