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USE OF VIDEO HEAD IMPULSE TESTING TO IMPROVE DIAGNOSIS OF POSTERIOR CIRCULATION STROKE IN THE EMERGENCY DEPARTMENT – A PROSPECTIVE OBSERVATIONAL STUDY

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Outcomes Vertigo is a common presentation to the Emergency Department (ED) with 5% of presentations due to posterior circulation stroke (PCS). Bedside investigations such as the head impulse test are used to risk stratify patients, but interpretation is operator dependent. The video head impulse test (vHIT) provides objective measurement of the vestibular-ocular-reflex (VOR) and may improve diagnostic accuracy in acute vestibular syndrome (AVS). Our aim was to evaluate the use of vHIT as an adjunct to clinical assessment to improve diagnosis of PCS.

Methods 133 patients with AVS were consecutively enrolled from the ED of our comprehensive stroke centre between 2018 and 2021. Patient assessment included a targeted vestibular history, HINTs examination (Head Impulse, Nystagmus and Test of Skew), vHIT and MRI >48hrs after symptom onset. The HINTs/vHIT findings were analysed and compared between vestibular neuritis (VN), PCS and other cause AVS. Clinical course, vHIT and MRI findings were used to determine diagnosis.

Results Final diagnosis was VN in 40%, PCS 15%, migraine 16% and other cause AVS 29%. PCS patients were older than VN patients (mean age 68.5±10.6 vs 60.1±14.2 y, p=0.14) and had more cardiovascular risk factors (3 vs 2, p=0.002). Mean VOR gain was reduced (<0.8) in ipsilateral horizontal and (<0.7) anterior canals in VN but was normal in PCS, migraine, and other cause AVS. V-HIT combined with HINTs was 89% sensitive and 96% specific for a diagnosis of VN.

Conclusions V-HIT combined with HINTs is a reliable tool to exclude PCS in the ED.

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NEUROCRITICAL CARE SERVICES IMPROVE MORTALITY AND FUNCTIONAL OUTCOMES FOR BRAIN INJURED ADULTS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Objectives Neurocritical care (NCC) is a rapidly developing subspecialty which aims to improve outcomes of critically ill neurological patients, although its effect is yet to be determined. We performed a systematic review and meta-analysis to evaluate the impact of neurocritical care units (NCCU) or teams on patient outcomes.

Methods Three electronic databases were systematically searched (MEDLINE, Embase, CENTRAL) up to December 2021, and by citation chaining, for studies comparing specialised NCC to general care for acutely brain-injured adults. The primary outcome was all-cause mortality at longest follow-up. Secondary outcomes were intensive care unit (ICU) length of stay (LOS), hospital LOS and functional outcomes. Random-effects meta-analyses were performed for all outcomes with R.

Results Following screening of 5659 non-duplicated published records, 26 non-randomised observational studies fulfilled inclusion criteria. A meta-analysis of mortality outcomes for 55792 patients demonstrated 17% relative risk reduction (RR 0.83, 95% CI 0.75–0.92) in those cared for in a NCCU or by NCC specialised staff, compared to general care. Subgroup analyses by disease and intervention type did not identify subgroup differences. Eight studies of 4667 patients demonstrated 17% relative risk reduction (RR 0.83, 95% CI 0.70–0.97) for an unfavourable functional outcome with specialised care compared to general care. There were no differences in LOS outcomes. Heterogeneity was substantial in all analyses.

Conclusions Subspecialised NCC are associated with improved survival and functional outcomes for critically ill brain-injured adults. Further investigations are necessary to determine the specific aspects of care in NCCUs that contribute to these improved outcomes.

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A DECADE ON: EXAMINING THE FREQUENCY OF DIAGNOSTIC CRITERIA IN BEHAVIOURAL VARIANT FRONTOTEMPORAL DEMENTIA

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Objectives A diagnosis of behavioural variant frontotemporal dementia (bvFTD) requires the presence of at least three of the six core (five behavioural, one cognitive) criteria. The contribution of each criterion towards the clinical diagnosis, however, remains unclear. This study assessed the frequency and combinations of diagnostic criteria in a large cohort of patients diagnosed with bvFTD.

Methods Behavioural and neuropsychological features at presentation were assessed in 108 patients with bvFTD; 25 with a genetic or histopathological definite diagnosis and 83 with probable bvFTD. Basic demographic data, including age, sex, years of education and disease duration, were collected.

Results Seventy-nine patients (73.1%) met at least four core diagnostic criteria. The frequency of diagnostic criteria ranged from 89.8% (early apathy/inertia; early loss of