

Library Current Awareness Bulletin: Stroke – February 2020

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News

[Good sleep linked to lower risk of heart attack and stroke](#)

NHS Behind the Headlines

Dec 2019

[Analysis of an article published in The Times which was based on findings from a study carried out by researchers from Tulane University in the US and Peking University Health Centre in China using information gathered in the UK.]

[Implantable cardiac monitors detect atrial fibrillation after stroke of unknown cause recommended for routine NHS adoption](#)

National Institute for Health and Care Excellence

Jan 2020

[The Reveal LINQ monitor - developed by Medtronic - identifies more people who have atrial fibrillation after a stroke with no identified cause or transient ischaemic attack (TIA). Those patients can then begin treatment for their atrial fibrillation to reduce the risk of another stroke. It is the first device of its type to be recommended for NHS use by NICE (draft guidance).]

Guidelines

[Guidelines for the Early Management of Patients with Acute Ischemic Stroke: 2019 update to the 2018 guidelines for the early management of acute ischemic stroke: A guideline for healthcare professionals from the American Heart Association/American Stroke Association](#)

Powers, W. J. et al
Stroke, vol. 50(12)
Dec 2019

[The purpose of these guidelines is to provide an up-to-date comprehensive set of recommendations in a single document for clinicians caring for adult patients with acute arterial ischemic stroke. The intended audiences are prehospital care providers, physicians, allied health professionals, and hospital administrators. These guidelines supersede the 2013 Acute Ischemic Stroke (AIS) Guidelines and are an update of the 2018 AIS Guidelines.]

Complications

[Effective INR level may be delayed in secondary prevention of stroke due to atrial fibrillation with warfarin in the patients with diabetes mellitus](#)

Acar, T. et al
Noropsikiyatri Arsivi [Archives of Neuropsychiatry], vol. 56(4) pp. 273-276
Dec 2019

[This study included a total of 70 patients whose warfarin treatment was started due to non-valvular atrial fibrillation (AF) and who were diagnosed with acute ischemic stroke. Of the 70, 30 were diabetic patients and 40 were not. Total dose and time values at achieving the effective International Normalized Ratio (INR) level after the start of warfarin treatment, during follow-ups in hospital, were statistically compared between the two groups.]

[Ethnicity and risk of diagnosed dementia after stroke: a cohort study using the clinical practice research datalink](#)

Shiekh, S.I. et al
Journal of Epidemiology and Community Health, vol. 74(2) pp. 114-119
Feb 2020

[This cohort study among patients aged 40 years or over, who had an incident stroke between 2005 and 2016, used multivariable Cox proportional hazard models to estimate ethnic differences in the risk of poststroke dementia, adjusting for major clinical and social confounders. The cohort comprised 45,474 stroke survivors (mean age 72.6 years, 49% female), of whom 95.7% were White, 2% South Asian, 1.2% Black and 1.1% of Mixed/Other ethnicity.]

[Lower Tinetti scores can support an early diagnosis of spatial neglect in post-stroke patients](#)

Colombo, P. et al
European Journal of Physical and Rehabilitation Medicine, vol. 55(6) pp. 722-727
Dec 2019

[160 post-stroke adults admitted to a rehabilitation unit in Italy between January 2015 and December 2016 were evaluated, with 89 matching the inclusion criteria and having their Tinetti Test scores for balance condition and gait function compared with Bells Test and line bisection task for spatial neglect. Global independence activity was also assessed using Barthel Index and global cognitive functioning by means of the Mini-Mental State Examination.]

[Relationship between s-amyloid protein 1-42, thyroid hormone levels and the risk of cognitive impairment after ischemic stroke](#)

Chen, X.-H. et al
World Journal of Clinical Cases, vol. 8(1)
Jan 2020

[195 patients with acute cerebral infarction confirmed from June 2016 to January 2018 were enrolled in this study. Baseline data and serological indicators were recorded to assess cognitive function of patients. All patients were followed up for 1 year. Their cognitive functions were evaluated within 1 week, 3 months, 6 months and 1 year after stroke. At the end of follow-up, the patients were divided into PSCI and non-PSCI according to Montreal cognitive assessment score, and the relationship between biochemical indexes and the progression of PSCI was explored.]

[The impact of atrial fibrillation type on the risks of thromboembolic recurrence, mortality and major haemorrhage in patients with previous stroke: a systematic review and meta-analysis of observational studies.](#)

Mentel, A. et al

European Stroke Journal

Jan 2020

[Four multidisciplinary databases (MEDLINE, EMBASE, Web of Science and CINAHL) were systematically searched from inception to December 2018. Prospective and retrospective cohort studies and case series that investigated patients with AF post-stroke and distinguished between AF types were included. Studies on topics other than stroke outcomes in AF patients were not included unless stroke outcomes were reported. RCTs were not included on the basis that they were not considered representative of natural population frequencies. Data was extracted from 26 studies, reporting outcomes on 23,054 patients, were included. Overall, risk of bias was moderate.]

Diagnosis

[Bi-Frequency symmetry difference EIT – feasibility and limitations of application to stroke diagnosis](#)

McDermott, B.J. et al

IEEE Journal of Biomedical and Health Informatics

Dec 2019

[A realistic 4-layer Finite Element Method (FEM) head model with and without bleed and clot lesions was developed and performance was assessed with test parameters that included; measurement noise, electrode placement errors, contact impedance errors, deviations in assumed tissue conductivity, deviations in assumed anatomy, and a frequency-dependent background. A final test was performed using ischemic patient data.]

Drug Therapy

[The role of hydroxyurea to prevent silent stroke in sickle cell disease: Systematic review and meta-analysis](#)

Hasson, Carla et al

Medicine, vol. 98(51)

Dec 2019

[PubMed, EMBASE, Web of Science Core Collection, and Cochrane Central Register of Controlled Trials were searched for randomized controlled trials (RCTs) comparing the use of hydroxyurea vs blood transfusions, and observational studies evaluating the role of hydroxyurea to prevent stroke and silent stroke in patients with sickle cell anemia or sickle cell β thalassemia. 10 single arm observational studies with a total of 361 participants, and one RCT with 60 participants were included in the systematic review.]

Psychological Factors

[Association between anxiety and functional outcomes in patients with stroke: A 1-year longitudinal study](#)

Lee, E.-H et al

Psychiatry Investigation, vol. 16(12) pp. 919-925

Dec 2019

[423 patients were recruited within 2 weeks after a stroke (acute phase) during hospitalization at Chonnam National University Hospital, South Korea. 306 completed follow-up examinations 1 year later (chronic phase). Anxiety was evaluated using the Hospital Anxiety and Depression Scale-Anxiety subscale, and functional outcomes were measured using the National Institutes of Health Stroke Scale for stroke severity, the Barthel Index for activities of daily living (ADL), and the Mini-Mental State Examination for cognitive function at 2 weeks and 1 year.]

[Emerging non-pharmacological therapies for post-stroke depression and its future aspects: A review](#)

Chandrasekar, K. et al

Indian Journal of Pharmaceutical Education and Research, vol. 54(1) pp.1-7

Jan-Mar 2020

[A narrative review based on a search of selected databases (including PsychInfo, PubMed, ScienceDirect and PLOS) for articles published between 1992 and 2017 in English.]

[Pharmacological, psychological, and non-invasive brain stimulation interventions for treating depression after stroke](#)

Allida, S. et al

Cochrane Database of Systematic Reviews, no. CD003437

Jan 2020

[The authors searched the Specialised Registers of Cochrane Stroke and Cochrane Depression Anxiety and Neurosis, the Cochrane Central Register of Controlled Trials, the Cochrane Library, MEDLINE (1966 to August 2018), Embase (1980 to August 2018), CINAHL (1982 to August 2018), PsycINFO (1967 to August 2018), and Web of Science (2002 to August 2018). They also searched reference lists, clinical trial registers (World Health Organization International Clinical Trials Registry Platform (WHO ICTRP) to August 2018; ClinicalTrials.gov to August 2018), and conference proceedings, and they contacted study authors.] 49 trials with a total of 3,342 participants were included.]

Rehabilitation

[Experienced pain after stroke: A cross-sectional 5-year follow-up study](#)

Westerlind, E. et al

BMC Neurology, vol. 20(1)

Jan 2020

[281 adults that had their first stroke and were treated at Sahlgrenska University Hospital, Sweden during an 18 months period in 2009-2010 were asked to complete questionnaires five years post-stroke. The primary outcome was based on the question *Do you experience pain?* Predictors and explanatory factors for experiencing more frequent pain were analysed with logistic regression.]

[Motor neuroprosthesis for promoting recovery of function after stroke](#)

Mendes, L.A. et al

Cochrane Systematic Review, no. CD012991

Jan 2020

[The authors searched the Cochrane Stroke Group Trials Register (19 August 2019), the Cochrane Central Register of Controlled Trials (CENTRAL) (August 2019), MEDLINE (1946 to 16 August 2019), Embase (1980 to 19 August 2019), and five additional databases. They also searched trial registries, databases, and websites to identify additional relevant published, unpublished, and ongoing trials. 4 RCTs involving a total of 831 participants who were more than three months post-stroke were included.]

[Musical sonification of arm movements in stroke rehabilitation yields limited benefits](#)

Nikmaram, N. et al

Frontiers in Neuroscience, vol. 13

Dec 2019

[Stroke patients in two sites (Site 1; N=12, Site 2; N=30) were randomly assigned to treatment or control groups and received daily training of guided sequential upper limb movements in addition to their standard stroke rehabilitation protocol. Treatment groups received sonification (i.e., changes in musical pitch) of their movements when they moved their affected hand up and down to reproduce a sequence of the first six notes of a C major scale. Controls received the same movement protocol, however, without auditory feedback.]

[Unilateral spatial neglect after stroke: Current insights](#)

Gammeri, R. et al

Neuropsychiatric Disease and Treatment, vol. 16 pp. 131-152

Jan 2020

[An updated overview of unilateral spatial neglect (USN) clinical and neuroanatomical features with recent progresses in the diagnosis and rehabilitation of the disease highlighted. In addition, a Medline search on three of the most promising interventions for USN rehabilitation (prismatic adaptation, non-invasive brain stimulation, and virtual reality) was carried out and identified studies were classified according to the strength of their methods.]

Risk of stroke

[Association of serum magnesium levels with risk factors, severity and prognosis in ischemic and hemorrhagic stroke patients](#)

Tehrani, S.S. et al

Caspian Journal of Internal Medicine, vol. 11(1) pp. 83-91

[This cross-sectional analytic study was performed on 447 stroke patients (49.7% female) recruited from AyatollahRouhani Hospital in Babol, Iran. The two main groups were ischemic stroke group and hemorrhagic stroke group, and these were further divided into two sub-groups, namely: embolic and thrombotic for the ischemic group, and intracerebral hemorrhagic (ICH) and sub-arachnoid hemorrhagic (SAH) for the hemorrhagic group.]

[Risk factors in young stroke](#)

Rashid, M.H.U. et al

Journal of Medicine (Bangladesh), vol. 21(1) pp. 26-30

Jan 2020

[This descriptive cross-sectional observational study was conducted in the Department of Medicine and Neurology, Dhaka Medical College, Bangladesh, during the period April to October 2016. 100 consecutive stroke patients (38% female) between the age of 15-45 years were studied. All were investigated with routine blood count, urine examination, blood glucose, lipid profile, serum creatinine, ECG, chest X-ray and CT scan of brain.]

[Risk factors for recurrent arterial ischemic stroke in children and young adults](#)

Sarecka-Hujar, B. and Kopyta, I.

Brain Sciences, vol. 10(1)

Jan 2020

[A narrative review based on a search of PubMed, Scopus and Embase using combinations of the following keywords: "arterial ischemic stroke", "ischemic stroke", "stroke", "recurrent", "stroke recurrence", "children", "pediatric", and "young adults" (last search undertaken early November 2019).]

[Risks of stroke and mortality in atrial fibrillation patients treated with rivaroxaban and warfarin](#)

Alberts, M. et al

Stroke, vol. 51(2)

Dec 2019

[This retrospective cohort study (2011-2017) compared rivaroxaban and warfarin for stroke and all-cause mortality risk reduction in a real-world setting. The study was based on an intent-to-treat analysis of patients from July 1, 2011 to December 31, 2017, using longitudinal claims data including integrated enrolment and medical and prescription claims data for ~80 million unique de-identified members since 2000, most recently updated December 2017.]

[Working together to prevent strokes in Copeland](#)

Walsh, K. and Clayton, J.

NHS England, Blog

Jan 2020

[Kevin Walsh of the Rotary Club and Julie Clayton, Head of Communications and Engagement at NHS North Cumbria Clinical Commissioning Group, explain how they have helped identify people at risk of stroke.]

Service Design, Technology & Quality Improvement

[Effectiveness of upper limb wearable technology for improving activity and participation in adult stroke survivors: systematic review](#)

Parker, J. et al

Journal of Medical Internet Research, vol. 22(1)

Jan 2020

[Databases searched for this review were Medline, Web of Science (core collection), CINAHL, and the Cochrane Library. 11 studies (RCTs and randomized comparable trials) with a total of 354 participants at baseline and 323 participants at final follow-up were included. The Cochrane Risk of Bias Tool was used to assess the methodological

quality of the RCTs and the Downs and Black instrument was used to assess the quality of non RCTS. The 11 studies had small sample sizes ranging from 5 to 99 participants at an average (mean) age of 57 years.]

[Evaluation of an Extended Stroke Rehabilitation Service \(EXTRAS\): A randomized controlled trial and economic analysis](#)

Rodgers, H. et al

Stroke, vol. 50(12) pp. 3561-3568

Dec 2019

[EXTRAS was a pragmatic parallel-group observer-blind randomized controlled trial involving 19 UK centres. Patients with stroke were individually randomized to receive EXTRAS or usual care at discharge from early supported discharge. Five EXTRAS Reviews, comprising a semi-structured interview assessing progress, rehabilitation needs, and service provision, with goal setting and action planning, were provided by an early supported discharge team member between one and 18 months, usually by telephone. The primary outcome was performance in extended activities of daily living (Nottingham EADL Scale) at 24 months post-randomization.]

Surgery

[Patent foramen ovale closure by using transesophageal echocardiography for cryptogenic stroke: single center experience in 132 consecutive patients](#)

Han, Y. et al

Journal of Cardiothoracic Surgery, vol. 15(1) p. 11

Jan 2020

[Medical records were reviewed for patients who underwent percutaneous PFO closure at a single centre from December 2013 to December 2017. A total of 132 patients with PFO and cryptogenic strokes underwent PFO closure by using cardi-O-fix PFO device under TEE guidance. The participants comprised 64 and 68 male and female patients, respectively. The mean age and body weight of the patients were 39.40 ± 13.22 years old (12–68 years old) and 65.42 ± 9.70 kg (40–95 kg), respectively. All patients only received aspirin (3–5 mg/kg body weight, oral administration) for 6 months. Contrast-enhanced transthoracic echocardiography (c-TTE) with Valsalva maneuver was performed during follow-up, and questionnaire surveys were obtained at 3, 6, and 12 months after the procedure.]

[Prevalence of carotid stenosis and incidence of ischemic stroke in patients undergoing non-coronary cardiac surgery](#)

Da Costa, M.A.C. et al

Brazilian Journal of Cardiovascular Surgery, vol. 34(5) pp. 550-559

Dec 2019

[This study aimed to evaluate the incidence and risk factors associated with the stroke and CS $\geq 50\%$ in patients undergoing non-coronary surgeries operated in Santa Casa de Misericórdia de Ponta Grossa-PR, Brazil. 241 patients, aged 40 years or older, were assessed between 2009 and 2016. Carotid Doppler was performed in patients 40 years of age or older before any cardiac surgery as a routine. The incidence and possible risk factors for CS $\geq 50\%$ and perioperative stroke were analyzed by univariate statistical analysis.]

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