

The Barbados National Registry for Chronic Non-communicable Disease (the BNR)–Stroke

The BNR team has collected data on all stroke events occurring in Barbados since July 2008. Here we describe hospital-based management of acute ischaemic stroke patients in 2010–2013 in Barbados, by comparing documented treatment given in the Queen Elizabeth Hospital (QEH) with international recommendations.

Methods

Evidence-based stroke clinical practice guidelines (CPGs) were identified through a systematic literature search. Comparisons were made between these CPGs and documented diagnostic practice (all strokes), and between CPGs and documented prescribed medication (ischaemic stroke only), using a combination of key informant interviews and BNR data for 2010–2013. Only CPGs published prior to/including the final study year were included. Recommendations from the most current versions applicable (2010–2013) were identified and summarised into a general consensus from the various CPGs.

Data source

Anonymised data items on acute stroke events treated at the QEH and the management of patients in the acute setting for 2010–2013 were extracted from the BNR-Stroke database: patient demographic information, past medical history, drug history and medical management including admission status, clinical assessments, primary diagnostic tests and vascular imaging (all strokes), specialist evaluations and tests, and pharmacological management on arrival at hospital and on discharge (ischaemic strokes only). In the absence of a stroke unit, hospital ward information was used to identify the proportion of patients receiving intensive vs medical ward care.

Results

International CPGs

Multiple published international CPGs for the acute management of ischaemic stroke recommended the following:

- All strokes
 - patient management in a dedicated stroke unit or nearest hospital specialised in stroke care
 - clinical diagnosis, CT brain scan, and specialist evaluation by a multidisciplinary team
- Ischaemic strokes
 - if eligible, thrombolysis with alteplase within 3–3.5 hours of symptom onset
 - subsequent secondary prophylaxis, with a platelet aggregation inhibitor and a statin

BNR–Stroke data for 2010–2013

- 2431 acute stroke events
- Most managed at the QEH (2001; 82%)
 - 408 (17%) died outside the healthcare setting
 - 22 (0.9%) managed in the community
- Of 2001 hospitalised patients, 1735 (87%) had data fully abstracted by the BNR team

Barbados clinical practice comparisons with CPGs

Specialist stroke care (all strokes; N=1735)

- Barbados had no stroke unit or stroke team, and no official protocol for acute stroke management during the study period
- Most of the 1735 stroke patients were managed by emergency physicians at presentation (if admitted, they were managed on general medical wards)

Diagnostics (all strokes; N=1735)

- Most patients (1646; 95%) had CT scans
 - 1117 (68%) within 24 hours of hospital arrival
- Private MRIs (non-acute) for 18 (1%) patients
- Vascular imaging also performed infrequently (<10%)

Specialist evaluations (ischaemic strokes; N=1406)

- For the 1406 ischaemic stroke patients, neurological examinations, including dysphagia screening (776; 55%) were performed primarily by physicians who were neither neurologists nor members of a neurology team
- Half (409/815; 50%) of patients with this information documented in their notes had been seen by physiotherapists
- 636/903 (70%) ischaemic stroke patients who had a CT scan within 24 hours survived to discharge (Figure 1)



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- Fewer than half of the patients whose records documented this had received neurologist consultations (117/263; 45%)

Documented pharmacological management (ischaemic strokes; N=1406)

- Only 6/1406 (0.4%) received thrombolytic therapy
- 521 (37%) received aspirin within 24 hours of admission
- 670 (48%) were prescribed aspirin on discharge

Conclusions

Acute ischaemic stroke diagnosis was consistent with international recommendations, although this was less evident for treatment. While acknowledging the difficulty in implementing international guidelines in a low-resourced setting, there is scope for improvement in acute ischaemic stroke management and/or its documentation in Barbados. A stroke unit was established in August 2013 and written clinical protocols for acute stroke care were in development at the time of the study; future registry data will evaluate their impact.

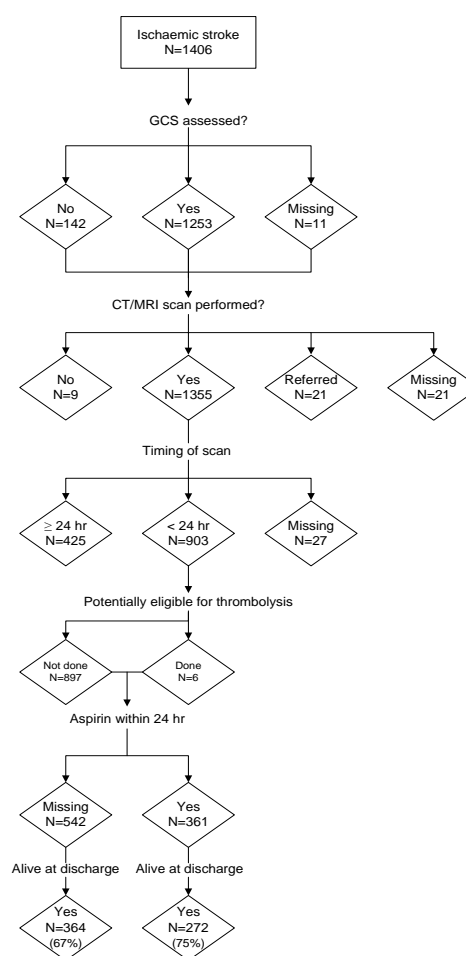
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2. Adams HP Jr, del Zoppo G, Alberts MJ, Bhatt DL, Brass L, Furlan A, et al. Guidelines for the Early Management of Adults with Ischemic Stroke. *Circulation*. 2007;115:e478–534.
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4. Canadian Best Practice Recommendations for Stroke Care (updated 2008). <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2586332/>
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For more information See the Annual Reports for the BNR for the years 2009–2015 or contact the BNR Registrar Mrs Lauren Maul (see BNR contact details, below right).

6. European Stroke Organisation (ESO) Executive Committee and the ESO Writing Committee. 2008. Guidelines for Management of Ischaemic Stroke and Transient Ischaemic Attack 2008. <http://www.karger.com/Article/Pdf/131083>
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Figure 1. Acute management and outcomes for ischaemic stroke patients in Barbados, 2010–2013.



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