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ASA
AUSTRALASIAN STROKE ACADEMY

The Official Newsletter of the Australasian Stroke Academy

In this issue

New Beginnings

A letter from the Council

2018 has arrived, and with it great growth and change. As part of our own expansion, we're pleased to launch our very first Newsletter!

Each issue will be specifically designed to provide timely and informative material on the subject of stroke, its treatment, and controversies in the stroke world.

We thank you for your support in the community thus far, and hope that you thoroughly enjoy the articles we will be presenting. We welcome you to share this material with your friends and colleagues.

We endeavor for this newsletter to be valuable to you, so we ask that you please share your feedback and any suggestions you may have.

About us

See What is Important to Us

The Australasian Stroke Academy is a not-for-profit organisation composed of a diverse group of physicians who practice stroke medicine with the focus on the development and delivery of education in stroke medicine to the expert group and wider community.

Our mission: The Academy's aim is to provide continuing medical education via its annual scientific and education meeting, educational modules, collaboration with various stroke organisations both national and international and through the promotion of research.

Our vision: The Academy's vision is to establish itself as a facilitator of quality stroke care through the promotion of stroke physician education which empowers and equip the physicians to serve the community better.

Our values: The Academy promotes collaboration, transparency and a collegial atmosphere among all stroke physicians.

Restarting Anticoagulation after Intracerebral Haemorrhage in Patients with Atrial Fibrillation

Dr Edmund Cheong

A/Prof Timothy Kleinig

To thin or not to thin – that is the question.

Timing of re-anticoagulation in patients with atrial fibrillation (AF) after an index spontaneous intracerebral haemorrhage (ICH) is controversial, with opinions hinging on perceived risk-benefit ratio between recurrence of ICH and AF-related cardioembolism. Multiple observational studies provide suggestive evidence, but randomised controlled trial data is lacking. However we should not be overwhelmed by this quandary. Extrapolation from randomised and observational evidence can guide decision-making in most cases.

On balance, studies consistently suggest re-anticoagulation benefits far exceed ICH recurrence risk. A 1-year Danish registry of 1752 patients confirmed that patients with atrial fibrillation and subsequent ICH who restarted anticoagulant therapy have a significantly decreased rate of ischaemic stroke, systemic embolism and all-cause mortality, without an increased ICH risk (1). Another Danish study of 6369 patients and a German retrospective cohort study (2)However, selection bias may skew these results, as healthier subjects in general will be selected for re-anticoagulation.

Some limited converse data exists. In the prospective CHIRONE study (3) intracranial haemorrhage recurrence risk with re-anticoagulation was high (7.5%), however the population was heterogenous, with subdural haematoma the index event in 50%. Most (60%) recurrent events were subdural. Similarly a large (307 640 patients) Taiwanese national database study concluded that anticoagulation benefits only exceeded risk if CHADSVASC scores were greater than or equal to 6. However, index subarachnoid haemorrhages and subdural haematomas were heavily represented, limiting generalisability to an ICH cohort (4). The pathophysiological evolution of subdural haematomas, with development of friable vascular collateralisation, differs significantly from sub-acute ICH.

The presumptive aetiology of the ICH may also affect decision-making, as may other neuroimaging findings suggesting the severity of proven or assumed pathologies. Deep haemorrhages (from arteriolosclerosis or hypertensive arteriopathy) have a low risk of recurrence (2% per year). However lobar ICH, most commonly due to cerebral amyloid angiopathy (CAA) has a higher risk of recurrence, and the risk-benefit ratio of recommencing anticoagulation in these cases is very much unclear. (5) Recurrence risk in both settings can probably be reduced further by strict blood pressure control (50% risk reduction per 10mm Hg systolic drop (6)).

Cerebral microbleeds (CMBs) are associated with both aetiologies. They are found more commonly in patients taking antithrombotics, and are especially common in anticoagulated ICH patients. Both number and location influences risk. Lobar CMBs carry a higher bleeding risk than deeper CMBs (7, 8). Higher CMB count is associated with higher recurrence as well as mortality. One study suggested ≥5 cortical microbleeds gives an unfavourable anticoagulation risk benefit profile (9). Cortical superficial siderosis (SS) is another common finding in cerebral amyloid angiopathy, and probably represents a marker of highest risk of recurrent ICH (10). It is uncertain whether patients with high CMB count but absent SS have a high recurrence risk.

Direct oral anticoagulants are consistently associated with an approximate halving of ICH risk, and the AVERROES suggested ICH risk with apixaban is similar to aspirin (11). However, patients with prior ICH were not included in this or other DOAC trials. Despite ‘reversibility’ concerns, post-ICH functional outcomes and mortality trend better following DOAC than warfarin therapy (11)

Current AHA/ASA guidelines suggest waiting 4 weeks prior to restarting anticoagulation, but the level of evidence is low, reflecting the observational nature of warfarin data and the lack of DOAC data. The article often quoted as

justifying delayed resumption of anticoagulation (12) did not distinguish intracranial bleeds in the headline result; most recurrent haemorrhages were subdural, and most recurrent ICHs were lobar. Other clinical parameters affecting the decision to restart anticoagulation may include CHADSVASC scoring, the projected ability to optimise antihypertensive treatment and lifestyle modification (especially reduction in alcohol intake).

Our current practice is to resume anticoagulation around day 5 in patients with deep ICHs regardless of microbleed count, preferably using a DOAC, minimising alcohol intake, treating obstructive sleep apnoea if present and aiming for systolic pressure approximately 120mmHg. We refer patients with lobar ICH for left atrial appendage closure if they have atrial fibrillation, influenced also by lobar microbleed count and superficial siderosis presence. We await randomized prospective clinical trials such as APACHE-AF (13) to help provide firmer guidance, however as enrolment in these studies is predicated by 'clinical equipoise' careful interpretation will be required.

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Treating Acute Large Artery Occlusion Stroke Using a "Tissue" Clock in Lieu of a "Time" Clock: Insights from the DAWN Study

Dr. Lee-Anne Slater

Prof. Peter Mitchell

In 2015, endovascular clot retrieval (ECR) was proven overwhelmingly beneficial in the treatment of anterior circulation stroke with large vessel occlusion (LVO) in 5 randomised controlled trials[1-5]. The number needed to treat to reduce disability was 2.5, and 4.2 for one additional patient to achieve functional independence. The success of the trials was in part due to advancements in stent retriever technology but predominantly to patient selection. Although the trials varied in the choice of imaging modalities used to assess ischemic penumbra, the one commonality was the strict adherence to a well-defined time window from ictal onset.

The findings of the DAWN trial [6], published in November 2017, showed that ECR remained beneficial in patients presenting beyond the "traditional" time window for intervention, supporting the concept that a proportion of stroke patients could be selected for treatment based on the "tissue" clock concept. The DAWN trial included patients 6 hours to 24 hours post time of onset, with a small infarct core based on CT perfusion, and a severe stroke syndrome and randomized them to either ECR or standard treatment (in most patients, that equated to no treatment). The study showed difference in good outcomes (defined by Modified Rankin Scale) in the treatment and the control groups, 49% vs 13%, respectively. It is clear that the "tissue" clock concept (also termed the penumbra concept) is now proven valid and could be deployed in daily clinical encounters.

However, the proportion of stroke patients, whereby the DAWN selection criteria is applicable, is likely modest, at least in metropolitan regions. This is by reason that metropolitan regions are well serviced by comprehensive stroke centres staffed by neurointerventionists recognized by the Conjoint Committee for Recognition of Training in Interventional Neuroradiology (CCINR), resulting in the majority of patients presenting to hospitals within 6 hours of stroke ictal onset. On the other hand, we envisage that the DAWN selection criteria will have increased utility for patients from regional areas. We anticipate a steady rise in the number of stroke cases, judged eligible for ECR by advanced imaging and we believe that it is now no longer tenable to exclude patients from ECR based on the "traditional" time window of 6 hours from ictus.

We recommend that comprehensive stroke centres, staffed by neurointerventionists 24 hours 7 days a week, to formally adopt the selection criteria of the DAWN study, for stroke patients who present beyond the traditional time window up to 24 hours.

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Introducing the Australasian Stroke Academy Forum!

We are delighted to announce a forum for members to interact with each other in hot stroke topics. Topics will be selected by moderators, and please feel free to explore and to contribute your views regarding the latest controversies in stroke treatment. We plan to have the forum up and running in the middle of January and emails with instructions will be sent to each and every individual academy member!

COMING SOON

Joint Australia-Vietnam Scientific Conference

Location: Ho Chi Minh City, Vietnam

28th to 29th September 2018

First Australian and Korean Joint Stroke Congress

Location: Seoul, South Korea

13th to 15th September 2018

Australasian Stroke Academy 7th Annual Stroke Management Seminar

27th to 28th October 2018

"The Australasian Stroke Academy seminar provided very comprehensive, up-to-date and practical information on stroke with a regional emphasis. It was an excellent learning and networking opportunity for students, trainees and doctors from diverse backgrounds."

-Dr. Natasha Krishnadas, Advanced Trainee in Neurology, Monash Health 2017

Council member A/Professor Bernard Yan with Professor Keun-Sik Hong, visiting Neurologist from Korea attending the 2017 Conference at the RACV Club, Melbourne, Victoria.

After six successful Stroke Seminars, the Australasian Stroke Academy is pleased to announce the 7th Annual Stroke Management Seminar. The 2018 Conference will occur on October 27th and 28th at the highly esteemed Raddison Blu Hotel, Sydney.

In previous years, 46.84% of attendees have commented that the event met their expectations. The remaining 53.16% said that the event exceeded their expectations!

Included each year is comprehensive teaching and discussion on a wide range of topics in stroke management, ranging from acute investigation and management of stroke, to secondary prevention. True cases are presented to encourage those in attendance to think in depth about diagnostic and management challenges.

Topics to be discussed at the 2018 seminar include:
- Acute stroke clinical assessment (all you need to know)
- Advanced neuroimaging teaching (from CT to CT perfusion to advanced post-processing software)
- Selection for intravenous thrombolysis (new agents beyond tPA)
- Selection for endovascular clot retrieval (going beyond 6 hours time window)

For information on registration, please see http://www.strokeacademy.com.au/registration.html
Positions are limited, we hope to see you there!