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Stroke Nursing News

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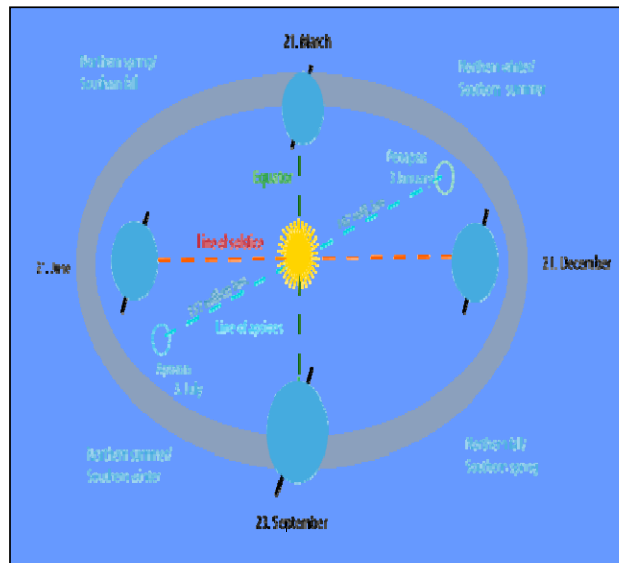
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Seasonal Variations in Stroke Incidence

As I was preparing to compile this season's newsletter, I started thinking about the trends in certain neurological conditions, such as aneurysms, brain tumors and strokes, which seemed to have some association with seasonal weather patterns. Here in Alberta, as in many other areas of this vast country, seasonal variations in temperature and weather impacts on our physical and mental well-being. (Health Canada: <http://www.hc-sc.gc.ca/sr-sr/pubs/hpr-rpms/2004-scleros-eng.php>) I wondered if there had been any research done in this area, to give credibility to my ruminations. A quick internet search revealed a number of articles related to the subject, which yielded some interesting results.



Weather, Chinook and Stroke Occurrence (Field, T. & Hill, M., Stroke, July 2002) details an examination of the relationship between stroke and the weather in Calgary. 3075 strokes were looked at over a 5-year period (1996-2000). No seasonal or monthly variation in stroke occurrence was found. However, a review of the Canadian Mortality Database by Dr. Tej Sheth et al., conducted over two 2-year intervals and looking at 300,000 deaths from acute myocardial infarction and stroke, identified a peak in stroke mortality in January and a trough in September. (J Am Coll Cardiol 1999; 33: 1916-9)

A Wisconsin study, (Lanska, D. & Hoffman, R., Neurology March 1, 1999; 52(5): 984) found a strong and consistent seasonal pattern of high stroke and respiratory disease mortality in the colder winter months. Stroke mortality was

significantly and independently positively associated with respiratory disease and inversely associated with temperature [sic]. Findings in other area of the Northern Hemisphere are consistent with the Wisconsin study. In Bialystok, Poland, 2002-2005 – a significant increase in ischemic stroke was noted in December, with the lowest incidence observed in August and September (Advances in Medical Sciences, Vol. 52, 2007, Supp 1). From a 10-year review of the Finnish FINMONICA Stroke Register, - there is significantly greater incidence of ischemic strokes and intracerebral hemorrhages during winter in Finland. Inconsistent with findings for much of the Northern hemisphere were studies from India (Professional J., Dec 2006, 13(4): 680-686) and Turkey (International J Neuroscience, 2002, Vol. 112, No. 8: 959-963), where it was found that stroke incidence peaked in the summer.

Down Under, Australians were found more likely to have a stroke in winter. (Medical Observer Weekly, Jan 2003) Dr. Yang Wang, a research fellow at John Hunter Hospital, New South Wales said, "The biological reasons were not quite clear, but we think blood pressure in the winter may generally be higher in elderly people, blood viscosity is probably higher and more people suffer from respiratory infections, which are risk factors for stroke." Total cholesterol and triglycerides also tended to be higher in colder months. In a follow-up study, conducted at Queensland University of Technology (ScienceDaily, May 2010), Dr. Adrian Barnett postulates that rates of cardiovascular disease increase dramatically in Australian winters because "many people don't keep themselves warm and cozy." [sic] Stroke studies from South America are few, and none I found related to seasonal variations.

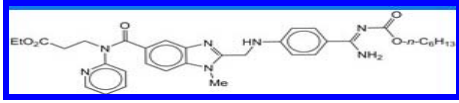
So, stroke incidence does appear to be impacted by seasonal temperature variations. But you knew that! Help your patients and loved ones to reduce their risk of stroke this winter. Stay warm. Stay healthy. Happy New Year!
C. Taralson, Editor



Canadian Stroke Network

Réseau canadien contre
les accidents cérébrovasculaires

Dabigatran approved for use in Stroke 28 Oct 2010



Health Canada, the Canadian health authority, has approved PRADAX™ (dabigatran etexilate), Boehringer Ingelheim's novel, oral direct thrombin inhibitor 2 for the prevention of stroke and systemic embolism in patients with atrial fibrillation (AF) in whom anticoagulation is appropriate, marking the second approval of this new oral anticoagulant following the recent marketing authorization by the US Food and Drug Administration (FDA). The Health Canada approval makes PRADAX™ available to AF patients in Canada, with the flexibility of two dosing regimens. While overall the 150 mg bid dose is recommended, the 110 mg bid dose is specifically available for elderly patients aged 80 years and above as well as for patients at high risk of bleeding.

The approval is based on findings from RE-LY®, the largest AF trial completed to date and is set to provide a breakthrough for stroke prevention in AF - a condition that affects 250,000 people in Canada alone. (See "About RE-LY" on page 11) The results demonstrated that dabigatran etexilate 150 mg significantly reduced the risk of stroke and systemic embolism by 35 percent beyond the reduction achieved with warfarin, the longtime standard of care, while the risk of major bleeding events was similar. Compared to well-controlled warfarin, dabigatran etexilate 110 mg bid was associated with a similar reduction of stroke and systemic embolism but a lower rate of major bleeding. Importantly, both doses provided a reduction in intracranial and life-threatening bleeding, as well as in total bleeding, compared with warfarin. Besides providing superior efficacy compared to warfarin, dabigatran etexilate does not require monitoring or related dose adjustments, is not affected by food,

and no dose adjustment is required for many common co-medications in patients with AF.

"Dabigatran etexilate is a significant advance in medicine. We have been waiting a long time for an alternative to warfarin. For decades, we have had no other choice than to use warfarin in the majority of patients, a treatment that imposes challenging restrictions on people's quality of life," said Dr. Stuart Connolly co-principal investigator of RE-LY®, Director, Division of Cardiology at McMaster University and member of The Population Health Research Institute, Hamilton, Ontario.

"It is really great to finally have a safer and more effective alternative for patients with AF, which is easier to use. The approval of dabigatran etexilate will transform the way we treat and manage patients with atrial fibrillation at risk of stroke." Coinciding with the Health Canada approval of PRADAX™, the Canadian Cardiovascular Society (CCS) has released new guidelines on stroke prevention in atrial fibrillation, which contain guidance on the use of dabigatran etexilate. Based on the safety and efficacy profile of PRADAX™, the guidelines generally recommend its use over warfarin for overall stroke reduction, particularly the 150mg dose twice-daily.

Professor Klaus Dugi, Corporate Senior Vice President Medicine, Boehringer Ingelheim said, "The approvals of dabigatran etexilate for stroke prevention in AF in North America are good news for patients and physicians, who now have access to a novel agent that has the potential to change the treatment paradigm in this indication. The decision of Health Canada marks another important step towards our goal to make this treatment available to all patients with atrial fibrillation at risk of stroke. We are working with regulatory authorities worldwide to ensure this." (See sidebar for current practice.)

Section 2.6 2010 Canadian Best Practice Recommendations for Stroke Care

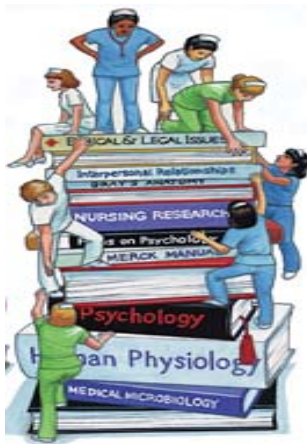
(<http://www.strokebestpractices.ca/index.php/prevention-of-stroke/antithrombotic-therapy-for-atrial-fibrillation/>)

2.6.1 Primary prevention of stroke in patients with non-valvular atrial fibrillation:

- I. Patients with atrial fibrillation should be risk-stratified using predictive indices for stroke risk such as CHADS2, and bleeding risk (such as HEMORR2HAGES).¹⁵⁴ Most patients should receive antithrombotic therapy [Evidence Level B].
- II. Patients with atrial fibrillation at **very low** risk of stroke (CHADS2 = 0) should receive aspirin (75-325 mg/day) [Evidence Level A].¹⁵⁵
- III. Patients with atrial fibrillation at **low** risk of stroke (CHADS2 = 1) should receive either warfarin or dabigatran [Evidence Level A]. Acetylsalicylic acid is a reasonable alternative for some low risk patients, depending on their individual risk/benefit profile [Evidence Level A].
- IV. Patients with atrial fibrillation at **moderate to high** risk of stroke (CHADS2 ≥ 2) should receive either warfarin or dabigatran [Evidence Level A].
- V. Patients with atrial fibrillation who are already well-controlled on warfarin with a stable therapeutic International Normalized ration (INR) may continue on warfarin, and may not need to switch to dabigatran [Evidence Level C].
- VI. Patients with non-valvular atrial fibrillation who are treated with warfarin should have a target INR of 2.5 (maintained in the range of 2.0 to 3.0); for patients with atrial fibrillation and mechanical heart valves, the target INR is 3.0 (range 2.5 to 3.5) [Evidence Level A].
- VII. Dabigatran is preferred over warfarin for patients with atrial fibrillation who meet the inclusion criteria for the RE-LY trial [Evidence Level A].¹⁵⁶
- VIII. For patients treated with dabigatran, a dose of 150 mg twice daily is appropriate for most individuals; 110 mg twice daily is recommended for patients aged 80 or more years and for patients at risk of bleeding [Evidence Level B]. *The median duration of treatment in the RE-LY trial was 20 months. The long-term safety and effectiveness of dabigatran is currently under investigation.*
- IX. The combination of ASA and clopidogrel should not be considered as a safer alternative to anticoagulant therapy for patients with atrial fibrillation, and should be reserved for patients in whom anticoagulant therapy is not feasible (e.g. patient refusal or inability to access INR monitoring) or when there are problems maintaining a stable, therapeutic INR. [Evidence Level A]

2.6.2 Prevention of recurrent stroke in patients with non-valvular atrial fibrillation

- I. Patients with **transient ischemic attack** and atrial fibrillation should begin oral anticoagulation (warfarin or dabigatran) immediately after brain imaging has excluded intracranial hemorrhage or large infarct [Evidence Level B].
- II. Dabigatran is preferred over warfarin for patients with atrial fibrillation who would meet the inclusion criteria for the RE-LY trial [Evidence Level A].¹⁵⁶
- III. Most patients with **acute ischemic stroke** and atrial fibrillation should receive oral anticoagulant therapy (warfarin or dabigatran) [Evidence Level A]. The decision to start anticoagulant therapy is optimally made during the acute phase of hospitalization. The optimal timing of oral anticoagulation following acute stroke for patients in atrial fibrillation is unclear; it is common practice to wait two to fourteen days and repeat brain imaging (CT or MRI) to rule out asymptomatic intracranial hemorrhage before starting warfarin [Evidence Level C]. The RE-LY trial of dabigatran did not enroll patients within the first 14 days after stroke, or patients with severe stroke within the previous six months.¹⁵⁶
- IV. For some patients with **acute ischemic stroke** and atrial fibrillation, the individual's preferences, level of disability, prognosis, and overall clinical status, including the size of the infarct on neuroimaging, may contraindicate oral anticoagulant therapy [Evidence Level C].
- V. For patients presenting with **acute ischemic stroke** and atrial fibrillation, the immediate use of heparin/heparinoid anticoagulation is not recommended [Evidence Level A].



The Stroke Nursing News introduced this feature in Spring 2008. We would like to continue to profile Canadian nurses who have completed or are currently enrolled in doctoral studies and have a focus on stroke.

One of the goals of these articles is to help build a community of nurse scientists in Canada and to encourage nurses who might be contemplating doctoral studies by introducing them to mentors and role models. We sincerely appreciate the candor and support of those nurses who have agreed to be profiled.

Special thanks to Kenda Power in Saskatchewan for the idea. If you know a nurse who should be profiled here, please send your ideas and articles to the editor at Colleen.taralson@albertahealthservices.ca

Stepping into the PhD program in the Faculty of Nursing at the University of Calgary marked the first time Dr. Teri Green actually set foot in and spent time on a university campus



for education purposes. After graduating from a hospital-based nursing program in Victoria BC with a diploma in nursing way back in 1976, she waited 10 years before she began her baccalaureate in nursing program via distance education at the University of Victoria. As with many nurses, she combined her studies with raising a family and working full-time. Simply re-engaging in academics was a challenge and to do it outside of the traditional classroom setting added a degree of uncertainty and stress that took a while to settle. After obtaining her BScN in 1993, Teri took a couple of years off and then dove into her master's degree. However, as her nursing career had shifted tracks somewhat, she chose to study for a MSc in Human Resource Management through Nova Southeastern University in Ft. Lauderdale Florida. Alas, studying under the sunny skies of that southern US state was not be...the profs came to Calgary and she spent every weekend for 18 months closed up in a classroom at the Southern Alberta Institute of Technology. Again, family activities (hockey games included) and work consumed the waking hours during the week. Once her MSc was completed in 1997, her work life again shifted and Teri became involved with the development of the stroke program in Calgary Alberta.

As her involvement grew to include organizing the stroke prevention clinic and the inpatient stroke unit, Teri interacted with the stroke neurologists and stroke fellows who had been recruited to drive the program forward. It was during this period of time that Teri came to realize that there were a lot of questions not being answered in the rapidly expanding medical research component of the stroke program.

The National Stroke Nursing Council has its own Stroke Doctor: Teri Green

She also realized that there really wasn't a nurse with the education and a compelling interest in research to move a nursing research agenda forward. So back to school she went, graduating in 2007 with a PhD in Nursing from the University of Calgary. The topic of her PhD research was the impact of minor stroke on patient and caregiver biopsychosocial outcomes. Not content yet, Teri went on to study with Dr. Andrew Demchuk of the Calgary Stroke Program as a post-doctoral fellow for two more years, to gain further research experience. Her post-doctoral work was a descriptive study examining outcomes in a cohort of patients who had undergone hemispherectomy for severe stroke and who had been discharged home following their in-hospital rehabilitation. Dr. Green received funding for her doctoral and post-doctoral work from the Heart and Stroke Foundation of Canada and the Alberta Heritage Foundation for Medical Research. Immediately following her post-doctoral studies, Dr. Green took up a position as an assistant professor in the Faculty of Nursing at the University of Calgary. Dr. Green's current research interests include psychosocial factors influencing long-term adjustment patterns of stroke patients and their spouses; gender differences and psychosocial adjustment to stroke; the role of family care-giving in patient recovery; and the marital relationship and recovery from stroke. She is co-investigator on two national randomized controlled trials and the principal investigator of two studies, one a quantitative study focused on marital relationships post-stroke and the other a qualitative study looking at the process of advanced care planning for patients with stroke.

Dr. Green has been a member of the Canadian Association of Neuroscience Nurses for many years and currently is the editor for the Canadian Journal of Neuroscience Nurses.

Ottawa prevention clinic has huge impact on stroke rate, study finds

New research suggests that patients who are treated for mini-strokes at The Ottawa Hospital (TOH) have a markedly reduced chance of developing a full-blown stroke, thanks to a comprehensive new stroke prevention clinic. Just 3.2 per cent of TOH patients treated for a mini-stroke (also called a transient ischemic attack or TIA) developed a full-blown stroke within 90 days, compared to a typical rate of 10 per cent at other centres. The study, which involved 982 patients, is published in the journal *Stroke*. (See abstract at: <http://stroke.ahajournals.org/cgi/content/abstract/41/11/2601>) "This study shows that an urgent stroke prevention clinic can have a huge impact on preventing TIA patients from having a full-blown stroke," said Dr. Mike Sharma, lead author of the study and Director of The Ottawa Hospital Stroke Clinic, Assistant Professor of Neurology at the University of Ottawa and Deputy Director of the Canadian Stroke Network. "Our stroke rate is a third of what it is at other centres, and we did this without costly hospitalization."



Ottawa Hospital Stroke Clinic director Dr. Mike Sharma says new research will help people who suffer mini-strokes avoid suffering full-blown strokes later on. Tony Caldwell/Ottawa Sun

The clinic is part of a comprehensive stroke prevention program within the Champlain Local Health Integration Network. The clinic involves coordinated efforts between emergency room physicians, neurologists and nurses. Patients with TIA symptoms are rapidly assessed in the emergency department and referred to the stroke clinic for The Ottawa Hospital Stroke Clinic was established in 2007 as brain imaging, medication adjustments, counseling about stroke risk factors and, in some cases, surgery. An evidence-based triaging system ensures that patients with the greatest stroke risk are seen as quickly as possible.

"This study shows that it is critical to have systems in place to respond rapidly once it is clear that the brain is threatened," said Dr. Antoine Hakim, Scientific Director of the Canadian Stroke Network and a stroke specialist and scientist affiliated with TOH and the University of Ottawa. "The results of this study are really encouraging. It's a huge achievement." There are over 50,000 strokes in Canada each year and 300,000 Canadians living with the effects of stroke.

The study was funded by the Canadian Institutes of Health Research (CIHR). "CIHR is pleased to support this wonderful study," said Dr. Lori West, Scientific Director of CIHR's Institute of Circulatory and Respiratory Health. "It is yet another powerful example of knowledge translation – research transforming the way we practice medicine, to improve the lives of Canadians." The full reference is: Stratified, Urgent Care for Transient Ischemic Attack Results in Low Stroke Rates. Wasserman J, Perry J, Dowlathshahi D, Stotts G, Stiell I, Sutherland J, Symington C, Sharma M. *Stroke*. 2010 The Canadian Stroke Strategy

Ottawa Nurses present at the 2011 International Stroke Conference Pre-Conference Nursing Symposium



Sophia Gocan (l.) and Mary Ann Laplante, 2 of the 3 Nurse Specialists at The Ottawa Hospital Stroke Prevention Clinic.

"I like this conversation. It may lead to something interesting." – A Passage to India, E.M Foster

Mary Ann Laplante knows where conversations can lead. Mary Ann's discussions with the organizers of the 2010 ISC (International Stroke Conference) pre-conference nursing symposium resulted in a presentation at the 2011 ISC Nursing Symposium. Mary Ann had the opportunity to attend her first ISC in 2010, and returned home ready to discuss ideas for a topic, with the goal of enhancing global understanding of stroke prevention. Mary Ann and Sophia Gocan, her colleague at TOH, submitted and subsequently presented The Impact of a TIA Clinic on Stroke Prevention at the preconference Nursing Symposium February 9, 2011.

Mary Ann and Sophia work as Nurse Specialists in The Ottawa Hospital (TOH) Stroke Prevention Clinic. Both Sophia and Mary Ann started with the program in 2006. Sophia had worked since 1996 in Neuro, and Mary Ann's nursing career, spanning 17 years, has been spent mainly in the Emergency Department. Sophia and Mary Ann collaborated with other team members to develop TIA protocols and algorithms, and put them into practice. When Sophia started, the TIA protocol had just been initiated in the Emergency Department. The protocol proved very effective in ensuring that appropriate diagnostic tests were done and the recommended medications ordered for TIA patients.

TOH has done a lot of work to create a central point of access, where all referrals, whether from GPs, the ED or specialists, are sent. TOH identified that a standardized referral system was needed, using a coordinated, comprehensive approach and dedicating a specialized team member to the triage process. Prevention depends on an increased awareness, detection and diagnosis of TIA with the initiation of appropriate therapy as soon as possible after the event. The TOH system avoided a first-come first-served approach, and identified those at highest risk as a priority. Within the clinic, the Nurse Specialists provide a pivotal role in triaging and comprehensive case management. Medical directives are used as needed to organize rapid diagnostic testing such as carotid Doppler, fasting bloodwork and ECGs, as well as prioritizing appointments with one of the seven stroke neurologists. TOH SPC works closely with the Diagnostic Imaging department, where an open schedule has been established to ensure all high risk patients get the diagnostics they require in a timely manner. (story continues next page)

Ottawa Nurses cont'...

Administrative assistants in the clinic ensure tests are completed so that treatment decisions can be made on a patient's first clinic visit.

Since April 2006, the 7 neurologists and 3 Nurse Specialists working in the clinic have seen ~11,000 patients. (2866 in 2010 alone) The clinic takes a holistic approach to patient care, incorporating medical and lifestyle changes into secondary stroke prevention. Currently in draft are documents outlining processes and protocols for care in the Stroke Prevention Clinic. Once they are completed, Mary Ann and Sophia hope to share them with other Ontario centres where Stroke Prevention Clinics may be planned.

Their presentation at the ISC was part of an afternoon session called "Essentials of Standard Clinical Practice and Stroke Center Development", which included talks on collaborative stroke networks, the impact of blood pressure, an in-hospital stroke alert improvement plan and others. Mary Ann and Sophia were the only Canadians among the group of presenters from across the United States.

The Ottawa talk defined and examined the components of an outpatient Stroke Prevention clinic, with a particular focus on the nursing role. Goals regarding triaging and assessment of TIA and minor stroke patients were reviewed.

Mary Ann and Sophia spoke about the need for early identification and management of patient who have suffered a Transient Ischemic Attack. They talked about how test results will initiate conversations about lifestyle modification with their patients. They discussed the importance of communication and collaboration at the community level, ensuring family doctors and other community agencies were current on their patient's diagnosis and treatment. The Stroke Prevention Clinic staff endeavor to give a consistent message to every patient, so use a standardized approach to education, which incorporates stroke best practices and information from national agencies like the Canadian Diabetes Association and the Canadian Hypertension Education program (CHEP).

In addition, Mary Ann and Sophia shared the current research data from the TOH SPC, published in *Stroke* Nov. 2010 by Wasserman et al. This data showed the positive impact of an outpatient TIA management approach in the prevention of recurrent stroke. Lessons learned over the last four and a half years were also shared.

During our interview, they also discussed their current research project on the Ottawa Model for Smoking Cessation. The project, sponsored by the University of Ottawa Heart Institute in collaboration with the Heart and Stroke Foundation of Ontario,

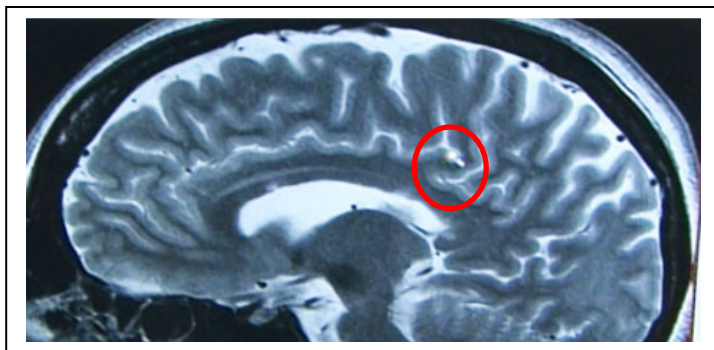
aims to determine whether a standardized counseling approach accompanied by cost-free smoking cessation pharmacotherapy can help smokers with TIA or stroke quit smoking over the long-term, vs. simply providing a prescription for the medications in conjunction with a standardized counseling approach, and whether this approach is a cost-effective alternative to providing prescriptions. Mary Ann and Sophia are the study chairs representing The Ottawa Hospital.

Mary Ann and Sophia were supported by the Ottawa Hospital and the Regional Stroke Network to attend the 2011 ISC, and were excited about the opportunity to present their program to over 500 nurses who attend the afternoon session of the Nursing Symposium. Mary Ann said, "An aggressive approach is needed for the identification of risk factors and their management at all points of the stroke prevention and care continuum. Nurses make up the largest health professional workforce involved in the care of stroke patients, and we therefore play a pivotal role."

Go to www.ottawamodel.ca/en_main.php for more information on the Ottawa Smoking Cessation Model. Go to www.heart.org/HEARTORG/, and look for Stroke Conference in the "Our Sites" list at the bottom of the page, for more information on the ISC.

Damage found in brain 2 weeks after mini-stroke

The Canadian Press, Friday Jan. 28, 2011 7:08 AM ET



Mini-strokes are thought to be fairly fleeting, often lasting a few minutes with symptoms gone within 24 hours and no apparent lingering effects -- although they do heighten a person's risk of full-blown stroke in the future. But experiments conducted at a neuroscience lab in British Columbia paint a picture of a more lasting effect. Researchers used transcranial magnetic stimulation to examine patterns of brain activity in 13 patients who had experienced TIAs 14 to 30 days earlier, and compared them to the brain activity of 13 healthy people.

"We wondered if we could maybe detect something with neurophysiology, with electro-physiology, that has previously gone unnoticed," Lara Boyd, a neuroscientist with the Brain Research Centre at Vancouver Coastal Health Research Institute and the University of British Columbia said in an interview. It's already known that after a stroke, the stroke side of the brain is not very excitable because damage causes it to be suppressed or depressed, she said. And now, the B.C. lab has found essentially the same thing in patients who have had a TIA. "They're now supposedly recovered two weeks after that event. We still see the same pattern, or similar pattern, of suppression of the damaged side of the brain," Boyd said. "So it's indicating to us that something is seriously wrong in that part of the brain, that this event was not transient. We see this kind of lasting effect in the ability to excite the side of the brain that was hurt by the TIA."

The research was published Thursday in *Stroke*, the journal of the American Heart Association. Boyd said a longitudinal study of 60 people will come next, to examine TIA patients in the emergency department, at 14 days, 30 days and 60 days to see if this changes over time. "And then our real main question is, 'Could this be a useful tool in predicting who's at most risk for going on and having a full-blown stroke?'" It's also hoped that the technique can help discern whether someone is having a TIA or a migraine, which sometimes has similar symptoms.

(**Stroke**. 2011. Published online before print January 27, 2011, doi: 10.1161/STROKEAHA.110.602938)

Recommendations will prevent stroke patients from falling through cracks



OTTAWA – The **2010 Canadian Best Practice Recommendations for Stroke Care** emphasize the need to prevent stroke patients from falling through the cracks as they move from the ER to in-hospital care to rehabilitation therapy and back to the community. The recommendations were released today by the Canadian Stroke Network and the Heart and Stroke Foundation of Canada.

“The adoption of these best practices will ensure stroke patients and families have rapid and seamless access to appropriate stroke services across the continuum and that they are well supported through these transitions,” says Patrice Lindsay, PhD, Director of Performance and Evaluation at the Canadian Stroke Network and one of the project leaders.

Among new recommendations:

- Blood pressure should be maintained at a level that is consistently lower than 140/90;
- Because atrial fibrillation (irregular heartbeat) increases stroke risk, patients with this condition should be closely monitored and the use of new drug therapies should be considered;
- Patients who have a mini-stroke (transient ischemic attack) should be referred immediately to a stroke specialist at a prevention clinic or to an emergency department due to increased risk of a major stroke;
- There should be more widespread use of telestroke – long-distance video and data hookups – between stroke specialists and communities where on-site stroke care does not exist; and
- Improved hospital discharge programs are needed, as well as better community services to enable people to return home sooner from hospital.

Thanks to earlier guidelines released in 2006 and 2008, more communities in Canada have an organized emergency response to stroke, stroke prevention clinics, specialized hospital stroke units, and improved rehabilitation services, all of which have been shown to save lives and reduce disability.

This is first time that this information has been pulled together in an easy-to-search and smart-phone friendly website – www.strokebestpractices.ca. The website includes resources to improve stroke and emergency services and to measure their effectiveness. It also includes a patient’s guide to optimal stroke care.

“Stroke is the third leading cause of death in Canada yet most strokes are preventable and treatable,” says Bobbe Wood, CEO of the Heart and Stroke Foundation of Canada.

“Increasing awareness is a key part of the Canadian Stroke Strategy. The best practices website will provide optimal stroke resources and tools to the public and professionals such as physicians, emergency personnel, nurses, rehabilitation specialists and health policymakers.”

The *Canadian Best Practice Recommendations for Stroke Care* was developed as part of the Canadian Stroke Strategy, an initiative of the Canadian Stroke Network and Heart and Stroke Foundation of Canada to improve stroke care across the country. There are about 50,000 new strokes in Canada each year and 315,000 Canadians living with the after-effects of a stroke.

December 8, 2010

Canadian Stroke Strategy Launches Stroke Best Practice website



The Canadian Best Practice Recommendations for Stroke Care is a joint initiative of the Canadian Stroke Network and the Heart and Stroke Foundation of Canada.

The Canadian Best Practice Recommendations for Stroke Care (Update 2010) presents high-quality, evidence-based stroke care recommendations in a standardized framework to support healthcare professionals in all disciplines. Implementation of these recommendations is expected to contribute to reducing practice variations and closing the gaps between evidence and practice.

The CSS Best Practices and Standards Working Group has overall responsibility for the development and update process. The recommendations are developed with the support of an interprofessional group of experts in stroke care who have volunteered their time to serve on topic-specific task groups, the consensus panel, or as our external reviewers.

<http://www.strokebestpractices.ca/>

Resources:

Canadian Best Practice Recommendations for Stroke Care 201

[CSS Performance Measurement Manual](#)

A Patient’s Guide to Canadian Best Practice Recommendations for Stroke Care

[A Guide to the Implementation of Stroke Unit Care](#)

EMS Stroke Workshop

[CSS Core Performance Indicator Update 2010](#)

Getting on With the Rest of Your Life After Stroke

[Sodium 101 Get the facts! Website](#)

Evidence-Based Review of Stroke Rehabilitation Website

[StrokEngine Website](#)

Cross-Continuum of Stroke Management Diagram

[Transitions of Stroke Care Model](#)

Late-Breaking Stroke News

<http://www.medicalnewstoday.com/sections/stroke/>

Statins May Be Too Risky For Those With Brain Hemorrhage History

10 January 2011

Patients with a history of brain hemorrhage may find that the risk of recurrence is much higher than the benefits they could gain from statins, researchers from Massachusetts General Hospital and Harvard Medical School, Boston, wrote in *Archives of Neurology*. The authors explained that generally, statin use has been accepted as an effective way of significantly reducing stroke and heart disease risk. However, widespread use of the drug is a controversial subject.

Sarafem, Prozac Can Help Stroke Victims Physically Recover While Lifting Spirits

10 January 2011

The incidence of a stroke can prove devastating to patients and those that are charged with supervising recovery. More often than not, at least some percentage of motor function is lost, severely impairing the ability to complete every day functions and robbing the victim of their independence. However, a link has been found between commonly prescribed Sarafem/Prozac and re-establishing motor skills within three months of stroke, while aiding in improving depression suffered by victims.

Liver Disease A Possible Predictor Of Stroke: Study

10 January 2011

People suffering from fatty liver disease may be three times more likely to suffer a stroke than individuals without fatty liver, according to a study by researchers at St. Michael's Hospital and the London Health Sciences Centre. The study is the first to find a link between nonalcoholic fatty liver disease - a disease characterized by the accumulation of fat in the liver in non drinkers - and stroke. "The risk of stroke in relation to fatty liver disease has never been tested," Dr. Ray says. "Our study shows a strong link between the two and the possibility in future that currently available blood liver enzyme tests, or novel markers of fatty liver, may be used to predict the risk of stroke and help us better care for and treat at risk patients." Nonalcoholic fatty liver disease is a common condition that often has no symptoms or complications. Risk factors include obesity, high cholesterol, diabetes and, especially, insulin resistance. While the findings are promising, additional research is needed to validate the study's findings, Dr. Ray said.

Advances in Stroke Treatment: Top Advances From AHA for 2010 Include Stroke

http://www.eurekalert.org/pub_releases/2010-12/aha-trh122110.php

December, 2010 – This year, for the first time, the American Heart Association and the American Stroke Association compiled two separate lists of their top 10 major advances of the year, one focusing on cardiovascular research and the other on progress in stroke. Also for the first time, a neurologist, Dr. Ralph Sacco, is president of the AHA, which encouraged the separate focus. Here is the list of the 10 Advances in Stroke research for 2010:

1. "Time is brain": Clot-dissolving treatment for acute ischemic stroke found beneficial in the first 4.5 hours after onset, potentially harmful later. A combined patient analysis of eight trials of intravenous tissue plasminogen activator (tPA) for acute ischemic stroke reinforced prior findings of a strong time-to-treatment effect, with greatest benefit in the first few hours after onset, and, for the first time, demonstrated increased mortality from late treatment beyond 4.5 – 6 hours after onset. (Lancet 2010; 375(9727):1695-703)
2. New mechanism of emboli clearance from the brain vasculature discovered. This study identified an entirely new way by which brain blood vessels are kept open by the body in the face of clots – extravasation. Clots that are not able to be dissolved are sometimes pushed out through blood vessel walls into the surrounding tissue, restoring nourishing flow in blood vessels. (Nature 2010; 465: 478-482)
3. Carotid endarterectomy and carotid artery stenting directly compared. The large CREST trial compared head-to-head the two major methods to reopen narrowed carotid arteries carrying blood flow to the brain: carotid endarterectomy (open surgical repair) and carotid stenting (endovascular placement of a stent). Overall, both techniques had similar rates of success and complication, but among younger patients, under 70 years of age, stenting appeared advantageous while among older patients endarterectomy appeared advantageous. Those findings were also supported in a preplanned meta-analysis of individual patient data from three randomized controlled trials. (N Engl J Med 2010;363(1):11-23; Lancet 2010;376:1062-73)
4. Million person milestone, emerging research shows quality initiatives improve outcomes. In an analysis of the first one million stroke patients enrolled in the national Get With the Guidelines® – Stroke quality improvement program at nearly 1400 hospitals across the country, quality of care on 10 performance measures improved substantially from 2003 to 2009. More than 80 percent of patients were receiving defect-free care by 2009, up from less than half in 2003. The Get With The Guidelines database is an invaluable resource in furthering development of tools and outcomes results that are making marked improvement in stroke patient care. (Circ Cardiovasc Qual Outcomes 2010; 3:291-302; Circulation. 2010;122:1496-1504; Stroke 2010;41: 1431-1439; Stroke 2010;41(7):1573-8)
5. International study identifies the ten major risk factors for stroke. In the worldwide INTERSTROKE study, 10 simple risk factors were found to be associated with 90 percent of the risk of stroke. Targeted interventions that reduce blood pressure and smoking, and promote physical activity and a healthy diet, could substantially reduce the worldwide burden of stroke. (Lancet 2010; 376, 112-123)
6. Ultrasound detection of silent emboli identifies patients at high risk of stroke. This international, multi-center, prospective study confirms that detection of silent micro-clots traveling to the brain on transcranial Doppler ultrasound identifies a subgroup of patients with asymptomatic narrowing of the carotid artery that are at high risk for stroke and might benefit from surgery or stenting. (Lancet Neurol;9(7):663-71)
7. Robot-assisted therapy beneficial for long-term arm impairment after stroke. This randomized trial suggested that robot-assisted therapy can improve the rehabilitation of arm function after stroke compared with ordinary care, though no more than intensive therapist care. (N Engl J Med. 2010;362(19):1772-83)
8. Genetic findings important in understanding, treating aneurysms. Two new studies looked at the genetics and treatment of aneurysms. Saccular intracranial aneurysms are located in the intracranial arterial wall; their hemorrhage commonly results in severe neurologic impairment and death. This multi-center genome-wide association study in Europe and Japan identified three new and confirmed two previously-suspected chromosome sites as harboring genes predisposing to the formation of intracranial aneurysms. Vascular Ehlers-Danlos syndrome is a rare, genetic, severe disease that causes arterial dissections and ruptures that can lead to early death. This randomized trial found that treatment with a beta-blocker medication to lower mechanical stress on arterial walls prevents dissection and hemorrhages in Ehlers-Danlos patients. (Nat Genet; 2010;42(5):420-5; Lancet. 2010;376;1476 – 1484)
9. Lowering blood pressure early reduces brain hemorrhage growth. One out of six strokes is due to intracerebral hemorrhage, a major cause of death and disability. Two pilot trials found that aggressively lowering blood pressure, starting within six hours of stroke onset, is feasible and can reduce hemorrhage expansion. Larger trials have been launched to determine if this improves patient final outcome. (Crit Care Med. 2010; 38(2):637-48; Stroke. 2010;41(2):307-12; Hypertension; 2010;56:852-858)
10. Physical activity, even moderate in degree, reduces stroke risk. A large study found leisure-time physical activity, even in modest degree, is associated with lower stroke risk in women. In particular, walking was generally associated with lower risks of total, ischemic, and hemorrhagic stroke. (Stroke 2010; 41(6):1243-50;)



Cross-Country Updates

(Submitted by NSNC provincial representatives)



British Columbia:

Evaluation of prototype Rapid Access TIA Clinics and subsequent TIA services has been completed. Governance of the BC Stroke Strategy (BCSS) is being transitioned from the Heart & Stroke Foundation for BC & Yukon to the Provincial Health Service Authority (PHSA). Prototype proposals for Rehabilitation and Reintegration have been submitted to the BCSS. Successful proposals will likely implement their models in the coming months. In conjunction with stroke leads from each of the health authorities, Provincial and Regional Acute Cerebrovascular Syndrome (ACVS) Action Plans have been developed. Current Practice Indicator Project (CPIP) audit, aimed to evaluate the implementation of Best Practices in Emergency Care for Stroke Patients, has been completed and data is currently being analyzed.


Alberta:

APSS made funding available for a number of educational events around the province, targeting both acute and rehab stroke staff. The CSS Provincial Roundtable was held in Calgary in November. Delegates visited the Calgary Stroke Program to learn about the many research and patient care characteristics of the program that led to its Stroke Accreditation Distinction in June 2010. Alberta was well-represented in the poster display at the Canadian Stroke Congress in June, and the Canadian Cardiovascular Congress in October. The interprofessional Rehab Certificate course development is ongoing. The first course offering, via the University of Alberta, will be April 2011, consisting of a wholly on-line format with 3 sessions conducted in real-time. This course is full, with 14 registrants, and we encourage master's nursing students to consider it as an elective (for those with a stroke rehab or a stroke nursing interest).

 Saskatchewan: not available at time of circulation

Manitoba:

The four stroke prevention clinics in Manitoba have all been very busy since mid November- we are not sure yet why this is happening. Dr. Arturo Tamayo continues to commute into Winnipeg every Friday from Brandon, to assist with the Stroke Prevention Clinic here at the Health Sciences Centre. We are very grateful for his time, commitment and expertise. Dr. Tamayo has also been kept busy in-servicing GPs regarding Dabigatran and it's indication in patients with atrial fibrillation. He and Winnipeg Cardiologist Dr. James Tam also presented on dabigatran to 125 GPs at a Winnipeg conference in January. This has been an exciting development for many of our patients in Manitoba. In collaboration with Heart and Stroke Manitoba, we hope to reach into some of the larger towns in the more remote areas of northern Manitoba in 2011, providing in-servicing on stroke prevention, TPA and acute stroke management updates to the physicians and nurses servicing and living in these areas.

 Ontario: In January, the Ontario Stroke Network released its new website at www.ontariostrokenetwork.ca. The OSN will be profiled in the next edition of the Stroke Nursing News.

 Quebec: not available at time of circulation

New Brunswick:

The Heart and Stroke Foundation of NB convened a stroke forum on atrial fibrillation and stroke for health professionals in Moncton on Saturday November 27th. It was an incredible success with over 300 registrants attending. Nurses and physicians comprised the greatest representation. All were informed to watch for the 2010 Best Practice Guidelines which were to be made public within two weeks. The Best Practice Guidelines were circulated through the provincial stroke network in December and each network member was responsible to inform their local network teams. Both regional health authorities have active stroke networks that are working tirelessly to enhance stroke practices. Work is ongoing within the provincial stroke network as well. The provincial stroke steering committee will be meeting in the New Year. There is evidence of keen interest and engagement within this network to push the stroke agenda forward. There is definitely momentum in NB.



Save the Dates



2nd Canadian Stroke
Congress, Ottawa
Convention Centre,
October 2-4, 2011

The purpose of a Canadian Stroke Congress is to provide a uniquely Canadian forum in which participants reflecting "bench-to-bedside-to-community" perspectives of stroke can exchange ideas, collaborate, and learn about innovation in stroke prevention, treatment, and recovery.

<http://www.strokecongress.ca/>

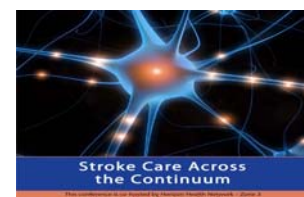
Where the Brain and Spine Meet ... At the Beach



Canadian Association of

Neuroscience Nurses 42nd Annual
Meeting and Scientific Sessions,
June 14-17, 2011, Vancouver

http://cann.ca/cann_conf.php



3rd Annual Stroke Clinical Day,
April 29, 2011, Fredericton, NB

Email Patti Gallagher for information:

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About RE-LY®

RE-LY® (Randomized Evaluation of Long term anticoagulant therapy) was a global, phase III, randomized trial of 18,113 patients enrolled in over 900 centres in 44 countries, investigating whether dabigatran etexilate (2 blinded doses) is as effective as well controlled warfarin with target INR of 2.0-3.0 for stroke prevention.

Patients were followed-up in the study for a median of 2 years with a minimum of 1 year follow-up. The primary endpoint of the trial was incidence of stroke (including hemorrhagic) or systemic embolism. Secondary outcome measures included all-cause death, incidence of stroke (including hemorrhagic), systemic embolism, pulmonary embolism, acute myocardial infarction, and vascular death (including death from bleeding). Compared to well controlled warfarin treatment, dabigatran etexilate showed in the trial:

- Significant reduction in the risk of stroke and systemic embolism - including hemorrhagic strokes with dabigatran etexilate 150 mg bid
- Significantly lower major bleeding events with dabigatran etexilate 110 mg bid
- Significantly lower life threatening and intracranial bleeding with both doses
- Significant reduction in vascular mortality with dabigatran etexilate 150 mg bid.

<http://www.medicalnewstoday.com/articles/205933.php>



Cross-Country Updates

(Submitted by NSNC provincial representatives)



Nova Scotia:

Re-organization and enhancement of stroke care delivery throughout the districts continues. Currently 5 of 7 stroke units are fully functioning and accepting patients from all across the district(s). The remaining two are clustering stroke patients locally onto a stroke unit and working towards accepting patients from across the district(s) onto one unit. In November of 2010, districts 6 and 7 (Pictou County and Guysborough/Antigonish Strait) opened their shared stroke unit – all stroke patients from both districts will now be admitted to the stroke unit in Antigonish. A re-audit of the South West Health Program implementation revealed that their reorganization of stroke care has resulted in statistically significant outcomes. A few successful outcomes have included an increase in the number of patients being admitted to their regional stroke center, a decrease in length of stay, a decrease in number of patients discharged to long term care, and an increase in the number of patients being discharged home with less disability. On October 25, 2010, an Emergency Health Service Bypass Protocol for acute stroke care in District 9 (Capital Health) was implemented with a goal to have all stroke patients receive their acute inpatient care on a stroke unit. Ongoing educational activities include a recent telehealth series on Post Stroke Depression and a Best Practice Guidelines update. Emergency Departments focused Guidelines into Practice sessions, and Change Management training for stroke and cardiac coordinators across the province took place. Recent successful stroke forums include Stroke Rehabilitation (November 2010) and Palliative care (scheduled February 2011). Cardiovascular Health Nova Scotia also provided physician support to attend the National Stroke Conference – 15 physicians from NS attended the conference this year in Montreal as part of this initiative. There is a joint initiative with Cardiovascular Health Nova Scotia, Diabetes Care Program of Nova Scotia and the Nova Scotia Renal Program to target similar risk factors across multiple diseases. The initial focus of this work is on hypertension, with projects including professional education, and tools to support care.



Prince Edward Island:

A Secondary Stroke Prevention Clinic pilot was opened at the Prince County Hospital (PCH) in Summerside PEI, October 2010. The pilot offers a coordinated approach to outpatient follow-up care for acute TIA patients and post-acute stroke patients. The purpose of the pilot is to evaluate and plan for the appropriate resources prior to expanding Secondary Stroke Prevention Services provincially. The establishment of the pilot completes the first phase of the three-phased Organized Stroke Care model for Prince Edward Island, which also included creating and filling a Provincial Stroke Care Coordinator position and instituting an acute inpatient stroke unit and stroke rehabilitation unit at the Queen Elizabeth Hospital (QEH) in Charlottetown. Next steps include finalizing our Evaluation and Monitoring Framework, Communication Plan, Training Plan and begin planning for phase two (2011-2012). Phase two will see the establishment of a Provincial Ambulatory Stroke Rehab Service and District Ambulatory Stroke Rehabilitation Teams (QEH and PCH). In addition, phase two includes the expansion of Secondary Stroke Prevention Services provincially. To support the successful implementation of best practice stroke care, a Provincial Stroke Steering Committee with a number of subcommittees has been established. Many dedicated staff across the continuum of care and across the province are working together to reduce the burden of stroke on PEI.



Newfoundland and Labrador:

Stroke education sessions continue to be offered provincially via teleconference to all interested health care providers, as sponsored by the Heart and Stroke Foundation. These sessions are an undertaking directed from the Integrated Stroke Strategy Advisory Committee 2 of Newfoundland & Labrador. The Living with Stroke program in NL continues to be offered with funding now available to train trainers in the different regions. This is a 6-8 week patient program, which has already been initiated with success. In St. John's, at the St. Clare Mercy Hospital site, a new stroke unit is opening, beginning in the middle of January, 2011. The final bed count is not known at this time, but the unit is much anticipated. A stroke coordinator position for the Eastern region has been started to assist with the usage of services across the continuum of stroke care for clients. A focus on implementing best practices and liaising with teams and stakeholders is the objective in this role. The stroke nursing education program is still in discussion for continuation, with much support to do so from the stroke committee. A further update will follow.

About the National Stroke Nursing Council

The National Stroke Nursing Council was established in late 2005 with the support of the Canadian Stroke Network to promote leadership, communication, advocacy, education and nursing research in the field of stroke.

The Council works to build understanding of the critical role of Canadian stroke nurses, to give a voice to experiences on the frontline and to support the vision of the Canadian Stroke Strategy.

National Stroke Nursing Council

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We want your Stroke Nursing News!

Send stories, photos and ideas for content to
Colleen Taralson, Editor at

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The NSNC is on the Web!

See us at:

www.canadianstrokestrategy.ca and
www.canadianstrokenetwork.ca

Teri Green, co-chair of the NSNC and Alberta Representative, is also the new editor of the Canadian Journal of Neuroscience Nursing. Send your research articles for publication to

greentl@ucalgary.ca

Where has Penny been?



Penny's been spending the winter with Audrey in Winnipeg. Hope she's dressing warm!



I wonder if Audrey and Penny took in any Winter Festivals?

Statement of Purpose

To promote leadership, communication, advocacy, education and nursing research in the field of stroke.

Goals

1. To build an understanding of the critical role of stroke nurses in Canada.
2. To give voice to experiences of stroke nurses on the front line.
3. To support the vision of the Canadian Stroke Strategy.

Objectives

1. Build a nationally recognized accessible stroke nursing network
2. Disseminate information and best practice standards to stroke nurses
3. Facilitate implementation of stroke best practices across the continuum of care
4. Promote the value and understanding of the various nursing roles in stroke care

National Stroke Nursing Council Reps from Coast to Coast

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