

Current Standards for Stroke Care, TIAs, and AF in Rural Canada

1. In rural and remote Canada, what is today's standard for stroke care, TIAs, and AF?

Question submitted by: Dr. Mary Johnston, Blind Bay, BC

Good stroke care, the continuum from primary prevention of risk factors (hypertension, hyperglycemia, hyperlipidemia, and smoking), through treatment of risk factors, acute stroke and rehabilitation, depends on primary care physicians. I'll comment on three specific areas.

Imaging and thrombolysis in acute stroke

Current guidelines state that thrombolysis using tissue plasminogen activator (TPA) is useful during the 4.5 hours when onset of symptoms occurs.¹ Excluded are persons older than 80, those on warfarin with an INR of > 1.7, those with a severe deficit (a National Institutes of Health Stroke Scale of > 25, often with a reduced level of consciousness), and those with both a history of previous stroke and diabetes. So, if your patient has none of these then you should get him to a centre with CT capabilities within 4.5 hours, arranging transport after speaking to your local stroke neurologist on call.

Urgency of referral for patients with TIA

Rothwell and colleagues published the ABCD rule in 2005.² Patients with the following five symptoms, age older than 60-years, whose blood pressure was over 140/90, with clinical features including unilateral weakness or speech difficulties, and whose duration of symptoms was greater than 10 minutes, had a high risk of stroke within seven-days (11.7%). These patients, therefore, should be referred for urgent carotid ultrasonography and possible revascularization. Patients with four of the above factors have a 6%, seven-day risk, and those with zero to one of these factors have a 1.2% risk. Low risk patients can be referred in a more leisurely fashion.

Anticoagulation in patients with atrial fibrillation

The CHADS2 Score, published in 2004 has stood the test of time.³ Assigning one point for congestive failure, hypertension, age over 60, diabetes and two points

for previous stroke, results in a CHADS2 score of zero to six. Patients with a score of two or more should receive anticoagulants, while those with a score of zero to one should receive ASA only. We now have choices for anticoagulation: warfarin or a newer drug, such as dabigatran or rivaroxaban. Drug acquisition costs for warfarin are much lower, but we must add the cost and inconvenience of INR monitoring. For patients living in remote or rural areas, the newer drugs might be more cost effective.

References

1. Del Zoppo GJ, Saver JL, Jauch EC, *et al*: Expansion of the Time Window for Treatment of Acute Ischemic Stroke with Intravenous Tissue Plasminogen Activator: A Science Advisory from the American Heart Association/American Stroke Association. *Stroke*; 2009;40(8): 2945–2948.
2. Rothwell PM, Giles MF, Flossmann E, *et al*: A Simple Score (ABCD) to Identify Individuals at High Early Risk of Stroke After Transient Ischaemic Attack. *Lancet* 2005; 366(9479):29–36.
3. Gage BF, Van WC, Pearce L, *et al*: Selecting Patients with Atrial Fibrillation for Anticoagulation: Stroke Risk Stratification in Patients Taking Aspirin. *Circulation* 2004; 110(16):2287–92.

Answered by:
Dr. Tom Wilson

Management of Atypical Chest Pain

2. Atypical chest pain. Negative cardiac work-up. Very small clot in subsegmental pulmonary. Negative Doppler leg. Negative v/q scan. Management? Anticoagulation?

Question submitted by: Dr. Gilbert Wu, Markham, Ontario

From the scenario you have described, it appears that the small clot was an incidental, unsuspected finding, and the chest discomfort experienced was probably a red herring. Such incidental findings are increasingly common given our current recommended low threshold for suspecting pulmonary emboli.

Continued improvement in CT imaging means that radiologists can detect ever smaller pulmonary emboli. Are they all clinically significant? Do we need anticoagulation for all of them? Some authors suggest that some of these small clots occur naturally, and do not need anticoagulation. Studies have reported incidental, small pulmonary embolism (PE) in from

1 to 5.7% of patients undergoing contrast-enhanced multislice CT of the chest for indications other than possible PE. I like the paper "Dots Are Not Clots: The Over-Diagnosis and Over-treatment of Pulmonary Embolism" reported in Emergency Radiology. The authors suggest that physicians are diagnosing PE previously undetected by ventilation/perfusion scintigraphy or single-detector spiral CT, according to the study.¹ They also suggest that very small peripheral clots (3.8 mm), which appeared focal and rounded with a "dot-like" appearance (they call these "dots"), are not traditional embolic clots and may actually represent normal embolic material from lower extremity valves, and may not need anticoagulation.¹

For your case, review the overall clinical picture. If it were not for the atypical chest pain presentation, would you consider her/him to be at risk for thromboembolism? Is she/he obese or sedentary? Has he or she undergone recent prolonged travel, etc.? After excluding other potential sites for embolism formation including pelvic veins, I would not anticoagulate this person, but counsel life style changes to improve fitness, weight loss, and a low threshold for reassessment if symptoms recur.

Reference

1. Suh JM, Cronan JJ, Healey TT: Dots are Not Clots: The Over-diagnosis and Over-treatment of Pulmonary Embolism Emerg Radiol 2010; (5):347-52.

Answered by:
Dr. Wayne Warnica