Health & Mind

STROKE

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1.What are the most common causes of death in patients admitted to the hospital with a stroke ?

The leading causes of death in the first month after a stroke are (1) the neurologic sequelae of the stroke,(2) pneumonia, (3) pulmonary embolism , and (4) cardiac disease. An essential part of stroke treatment is therefore the treatment and prevention of medical complications.

2.What is the treatment for a completed stroke?

Intravenous tissue plasminogen activator (tPA) given within the first 3 hours of an acute ischemic stroke significantly improves the likehood of a good neurologic outcome. Candidates for thrombolytic treatment should have apotentially disabling deficit that is not rapidly resolving. Important contraindications include the presence of hemorrhage or extensive acute hypodensity on the CT scan, a stroke or severe head injury in the previous 3 months, history of intracranial hemorrhage, major surgery in the previous 2 seeks, active or recent bleeding, severe uncontrolled hypertension (systolic blood pressure (SBP)>185 mmHg or diastolic blood pressure (DBP)>110mmHg), thrombocytopenia, abnormal prothrombin or partial thrombplastin time, pregnancy, and myocardial infarction – related pericarditis. A 0.9 mg/kg dose of tPA is given as an intravenous infusion, 10% as a bolus and the remainderover 1 hour to a maximal dose of 90 mg. Other antithrombotic drugs, such as aspirin and heparin, should be withheld in the first 24 hours, and blood pressure maintained under 185/110 mmHg.

3.What are the risks of thrombolytic therapy?

Under strict adherence to these treatment guidelines, the risk of symptomatic intracerebral hemorrhage is 6%. One half is fatal. The risk of intracranial hemorrhage increases significantly if the guidelines are violated. Thrombolysis may be associated with a higher risk of hemorrhage if treatment is administered after 3 hours, a higher dose or different thrombolytic agent is used, aspirin or heparin is given in the first 24 hours, or blood pressure is not maintained under 185/100 mm hg. Despite the recognized risks of thrombolysis, treatment increases by 50% the likelihood of an excellent recovery and reduces the number of patients who die or are left severely disabled

4.What is the role of Coumadin therapy in cerebrovascular disease?

Coumadin is the stroke-preventive treatment of choice in patients at high risk for cardiogenic emboli. Therapy is ideally initiated while the patient is receiving standard of low-molecular weight heparin. Coumadin is effective in long-term use for the reduction of stroke risk in nonvalvular atrial fibrillation as well as in rheumatic valvular-related atrial fibrillation and intracardiac thrombus.

The benefit of Coumadin depends on the risk of stroke versus the risk of a major bleeding event while on Coumadin. Although the target international normalized ratio (NR) is 2-3 in most cases, it is higher for patients with mechanical cardiac valves and may be lower for very elderly patients or those at higher risk for hemorrhagic complications.

5. What is the approach to primary stroke prevention?

The mainstay of primary stroke prevention is risk factor management. Although aspirin lowers the incidence of first-time myocardial infarction, it has not been shown to be useful for primary prevention of stroke.

4.What treatment is used to prevent a stroke in patients with TIA or prior stroke?

Aspirin remains the most popular drug used for secondary stroke prevention. The standard dose is 325 or 81 mg per day. There are proponents of higher doses of aspirin, but higher doses are associated with greater gastrointestinal side effects without proof of
great rbenefit.

5.Which antiplatelet agents other than aspirin are used for the prevention of stroke ?

Clopidogrel 75mg per day is more effective than aspirin at preventing secondary ischemic events (stroke, myocardial infarction, and vascular death). The relative risk reduction is 8-9% clopidogrel is indicated in patients who are aspirin- intolerant and should be considered as high risk patients, for instance, those who fail aspirin monotherapy.

Aspirin combined with extended – release dipyridamole is another effective secondary stroke prevention regimen . The benefit of the two agents is additive in this combination. Headache is the most common side effect attributable to the dipyridamole component

Ticlopidine is a platelet adenosine diphosphate (ADP) receptor antagonist chemically related to colpidogrel. It has a superior efficacy compared to aspirin, but side effects include rash, diarrhea and neutropenia necessitating CBC monitoring. For these reasons, ticlopidine is rarely used as a first – agent.

6.What is the role of carotid endarterctomy in cerebrovascular disease?

Carotid endaterctomy has been proven to prevent recurrent ischemicstroke in patient with high-grade carotid stenosis. In symptomatic patients with an internal carotid artery stenosis of 70% or greater, surgery significantly reduces the risk of subsequent stroke. There is a smaller benefit in symptomatic patients with 50-70% stenosis.

Lesions lessthan 50% are better treated medically. An advantage for carotid endarteretomy has also been demonstrated for asymptomatic lesions of 60% or greater, but the absolute reduction in stroke risk is much smaller.

7.Which factors affect the benefit of carotid endarterectomy?

Surgical morbidity and mortality are the key factors determining benefit in carotid surgery.

The efficacy of endarterectomy surgical morbidity and mortality rate of 6% or less for symptomatic carotid disease and 3% or less for asymptomatic disease. The benefit of surgery may be lost when surgical morbidity and mortality exceeds these rates.

8. What other interventions are available for cerebrovascular disease?

Endovascular interventions such as angioplasty/ stenting are currently being evaluated in clinical trials and may emerge as an alternative to carotid endarterectomy for some patients. Angioplasty/ stenting procedures are also options for patients with carotid, vertebral, basilar, or middle cerebral artery lesions not amenable to surgical treatment. Extracranial – intracranial bypass surgery may be considered in selected patients with ischemic symptoms secondary to carotid occlusion and demonstrated hemodynamic insufficiency.

Hemicraniectomy is a life-saving decompressive procedure, which may be appropriate in younger patients with malignant nondominant hemispheric brain infarction with resulting cerebral edema and incipient brain herniation Surgical evacuation of intracerbral hematomas is also sometimes indicated as a lifesaving procedure. As a routine treatment for intracerbral hemorrhage, surgery has not been demonstrated to improve neurologic outcome.

9. What are the major risk factors for stroke?

The most important established risk factor for stroke is age, and the second is hypertension. Additional well established risk factors are:

1. Gender(male)
2. Family history
3. Diabetes mellitus
4. Cardiac disease
5. Prior stroke
6. Transient ischemic attacks
7. Carotid bruits
8. Smoking
9. Increased fibrinogen level
10. Elevated fibrinogen level
11. Hemoglobinopathy

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9. I ncreased fibrinogen level
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11. Hemoglobinopathy
12. Drug abuse, such as cocaine

10. What other risk factors have been described?

1. Hyperlipidemia
2. Diet
3. Oral contraceptives
4. Sedentary Lifestyle
5. Obesity
6. Peripheralvascular Disease
7. Hyperuricemia
8 .Infection
9 .Hyperhomocysteinemia
10. Migraine
11. AfricanAmerican race
12. Alcohol consumption

Why Talent Is Made, Not Born !

Genes do matter with talent; they just don't matter as much as we are led to believe. To believe that someone is born with a talent is a beautiful story. We love the story of the little baby who is born with unbelievable genius. The story itself is so thrilling and addictive, and it's easy to overlook the fact that it's largely fiction. But when you look closely at the biographies of Michael Jordan, Michelangelo, Mozart, Warren Buffett or Steve Jobs, what you find is that they are building fast neuro-circuitry (pathways in our brains). They may have a few unique gifts ,that's for sure but to make the most of that, they follow the path that we all follow to build skill: practice in a certain way for a lot of hours, have tremendous intrinsic motivation, and be surrounded by master coaches and mentors. Growing skill requires practice. But it isn't a piece of cake. It requires energy, passion and commitment. If all the neuroscience were to boil down into one sentence it would be: Skills and talents are really fast, fluent electrical circuits that we grow in our brains. Genes are the blueprint for our bodies, but the skill circuits [in our brains] that allow our bodies to perform complex skills are built through that what I call “deep practice.” Deep practice requires intense concentration, persistence and repetition, while making small corrections. It's about staggering baby steps. Before you learn a foreign language or learn to ride a bike, it seems impossible; it seems separated from you like a huge cliff. But when you automate something, your brain is built to construct fast, fluid circuitry.

The science has come so far in the last few years because of the work of people like K. Anders Ericsson (professor at Florida State University) and the popular work of Malcolm Gladwell (author of The Outliers, The Tipping Point and Blink). This new notion of the bar of expertise being set at 10,000 hours of practice is permeating our popular culture. Science is giving us an X-ray we haven't had before. Talent is sort of the last magical thing, and we are getting to see the mechanism that's under the magic. Passion provides the emotional rocket fuel that keeps talented people firing their circuits, honing skills and getting better. Discover your talent. Where does most of your energy lie? Where do you draw energy from? If you want To be good, it takes a lot of energy to do it?10,000 hours. Follow the love. Put yourself around a lot of models and mentors. Stare at them. To stare at them is to think. Then, to get into the neuro-spot, reach and fail and fix, over and over again. Love and passion have to be sustained over time. It takes work and goals and long term purpose.

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