

News in Brief

MINOR LEG INJURIES INCREASE RISK OF VENOUS THROMBOSIS WITHIN THREE MONTHS

A study from the University of Leiden of 2,500 patients with venous thrombo-embolism (VTE) revealed that 11.7% had a recent history of minor leg injuries, compared with 4.4% of a matched control group without VTE. The risk of venous thrombosis (VT) was greatest in the first four weeks after the injury. During this period, the risk of VT was increased by three times, with a population-attributable fraction of 7.9%.

The paper noted that the annual incidence of VT was three per 1,000 annually. The known risk factors included surgery, immobility, pro-thrombotic genetic variants and major injuries. However, the role of minor injuries was not clear. From this arose the Multiple Environmental and Genetic Assessment (MEGA) study of risk factors for VT.

The study population was enrolled from six anticoagulation clinics from 1999 to 2004, consisting of patients with a first episode of VTE, or VT in the leg with pulmonary embolism.

There were 2,471 patients and 3,534 matched controls, aged 18 to 70. Information was obtained from self-reports (thus recall bias cannot be excluded), hospital records, and primary care physicians. The most recent injury before the embolism, and specifically minor injury, was sought for. Patients who needed extended immobilisation or bed rest were excluded.

289 (11.7%) of patients and 154 (4.4%) of controls had minor injuries within three months before the VTE. After adjustment for age and sex, the difference was found to be attributable entirely to minor injury in the leg (OR 5.1, with 95% CI of 3.9 to 6.7). Minor injuries in other parts of the body had no association with VTE (clots were not associated with injuries in areas of the body). Factor V Leiden carriers with minor leg injuries had a 50 times increased risk of VTE compared with non-carriers (OR 49.7, with 95% CI of 6.8 to 362.7).

The authors thought that even minor injuries might lead to reduced mobility and short term bed rest, which could predispose to VT. Minor injury to the leg could also cause minor vein damage, with oedematous obstruction and venous stasis, increasing the risk of clot formation. They also suggested that minor injury might damage a blood vessel wall, thereby increasing the risk of clot formation.

The authors felt that their findings could have implications for primary care physicians, as those who sustained minor leg injury would contact their general

practitioner (GP) first. Therefore, the authors felt that it was important for GPs to identify patients with minor leg injury who are at a high risk of developing VT, and provide appropriate prophylaxis.

(Source: Van Stralen JK, et al. *Minor injuries as a risk factor for venous thrombosis. Arch Intern Med* 2008; 168: 21-26.)

SEVEN CHERISHED MEDICAL BELIEFS DEBUNKED?

The authors debunked seven cherished medical beliefs in the 2007 year-end issue of the *BMJ*, the issue traditionally devoted to offbeat but legitimate research.

They said they wanted to give a light-hearted reminder to doctors that we can be wrong and we need to question what other falsehoods we unwittingly propagate as we practise medicine.

Take the conviction that we need to drink at least eight glasses of water a day. "A myth with no bona fide evidence," the authors say. This advice appears to have come from a 1945 recommendation that a suitable allowance of water for adults is 2.5 litres daily in most instances. However, much like a game of telephone, the message eventually got lost that most of this amount is contained in food, even excluding the accompanying intake of juice, milk, coffee, and caffeinated drinks. The authors said it was not the number amount that was so important as paying attention to what the body wants. But they said no harm would be expected from drinking an extra eight glasses of water beyond fluid intake from other sources in the diet, although excessive amounts could lead to water intoxication.

Another common belief was that we use only 10% of our brains, usually attributed to Albert Einstein, although there is no record of him ever saying this. (Maybe the source of this belief is self-improvement experts who want to teach us how to tap the latent power of the rest of our brain.) However, the authors said brain-imaging studies have shown that there is no area of the brain that is completely inactive; and also damage to almost any area of the brain causes specific, long-term deficits in mental, vegetative, and behavioural capabilities.

Another interesting myth is one from the grave, that hair and fingernails continue to grow after death. This is actually an illusion, due to increased prominence from retraction of the skin around hair and nails as the body dehydrates after death. Growth of hair and nails requires complex regulation, which is not sustained after death.

Other myths in this paper include:

- **Reading in dim light ruins your eyesight.** This belief

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probably stems from temporary difficult focusing and drying because of decreased blinking.

- **Shaving causes hair to grow back faster and coarser.** This is another illusion, because freshly trimmed hair does not have the fine taper of unshaven hair, and has not yet been lightened by the sun or by chemical exposures.
- **Mobile phones are dangerous in hospitals.** This was disproved by a 2005 Mayo Clinic study that found only a 1.2% rate of clinically important interference. Minimal interference occurred only at a distance of less than one metre.
- **Eating turkey makes people very drowsy.** This is attributed to tryptophan but is more likely to be due to reduced blood flow to the brain from a heavy holiday meal. Turkey meat has no more tryptophan per gram than chicken or beef, and less than pork and cheese.

The authors emphasised that belief in these statements is unlikely to cause harm. But they preach that since physicians speak from a position of authority, they need to constantly evaluate the validity of medical knowledge.

The authors also hope to explore further myths in the future, like whether swallowed chewing gum stays in the body for seven years, how colds are acquired and treated, and whether sugar really makes kids hyperactive.

(Source: Vreeman RC, Carroll AE. *Medical Myths*. *BMJ* December 2007; 335: 1288-89.)

FALL-PREVENTION PROGRAMMES MIGHT FALL THEMSELVES

According to the authors from the University of Warwick, fall-prevention programmes in primary care, community or emergency care settings have not worked. They reviewed 19 trials with 6,397 participants. There was no clear reduction in the number of people having at least one fall, the number having fall-related injuries, or the use of health services. All these approaches had won previous plaudits.

The study looked at interventions such as strength and balance training, modification of home hazards, withdrawal of psychotropic drugs; and interventions which targeted an individual's risk factors. The interventions are based on guidelines published by the American Geriatrics Society and the British Geriatrics Society. In Britain, such interventions (fall clinics) have proliferated, and the authors wanted to examine their effectiveness.

The method was a systematic review of randomised and quasi-randomised controlled trials, and meta-analyses from databases referenced by a Cochrane review. The trials were from eight countries (six from the US, and four from Britain).

The eligible trials included programmes that assessed multiple risks for falling and provided or arranged for treatment to address these risks. Control groups in these studies receive standard care or no intervention for fall prevention. While most programmes included assessments of gait and balance, drug review, and assessment of the home environment, the interventions to tackle these risk factors were quite variable. Some programmes provided very limited treatment options, such as referral to a doctor or to hospital consultants, supplemented by information. Others included a wide range of potential interventions, including exercise, drugs, and surgery as well as referral.

The combined risk ratio during follow-up (up to 12 months) for the number of fallers given the intervention (18 trials) was 0.91 (95% CI of 0.82 to 1.02). For fall-related injuries (eight trials), the RR was 0.90 (95% CI of 0.68 to 1.20). Thus, there was no clear reduction in the number of people having at least one fall, the number of fall-related injuries, or use of health services. There were no differences in hospital admissions, emergency attendance, death, or move to institutional care. Analysis of subgroups found no difference between interventions in different locations, populations selected or unselected for high fall risk, or multidisciplinary teams. One subgroup analysis suggested that active interventions were more effective than providing knowledge. However, the authors warned that this finding should be treated with caution and required testing in more studies.

The authors noted that there were many limitations in their review. The main problem was that the quality of the evidence was not high, as most trials were small, and many had poor methodology. Another problem was the lack of data on important outcomes, such as fractures or other serious injuries. Also, data on the number of falls per person-year of follow-up could only be obtained from one study. None of the studies reported quantitative data on health-related quality of life or physical activity.

In terms of the clinical implication of their review, the authors thought that interventions which provide treatment to address risk factors may be more effective than interventions that provide information and referral. However, they pointed out that active intervention programmes were likely to be more expensive, and the outcomes had not been properly studied. The authors stated that because of the proliferation of fall programmes, there was an urgent need for a large-scale definitive evaluation to resolve the uncertainty about the clinical effectiveness and the cost of fall prevention programmes. ■

(Source: Gates S, et al. *Multifactorial assessment and targeted intervention for preventing falls and injuries among older people in community and emergency care settings: systematic review and meta-analysis*. *BMJ Online* First 18 December 2007; DOI: 10.1136/bmj.39412.525243.BE)