Cardio DIGEST
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Editorial

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Persistent long-term increased risk for stroke in people with diabetes mellitus

Numerous studies have examined the risk factors for stroke, but mostly in study durations of less than 10 years' follow-up. It must be recognised, however, that estimates of risk may differ according to cohorts evaluated over longer periods of follow-up. Thus, when studied consecutively over time, some risk factors may be contributory either during differing periods or throughout the duration of a patient's lifetime. Others may have reducing effect with time. For example, it has been suggested that hypertension, the single most important risk factor for stroke, has a diminishing impact with increasing age (Whisnant et al, 2002). Similar long-term data was not available, until recently, for diabetes.

A recent study has evaluated the predicted value of risk factors for stroke measured in mid-life or a follow-up extending through 28 years (Harmsen et al, 2006). In a cohort of 7457 men aged 47–55 years, risk of stroke was analysed in periods for 0–15, 16–21 and 22–28 years of follow-up using an age-adjusted and multiple regression analysis. This analysis demonstrated that age, diabetes and high blood pressure were independently associated with increased risk of stroke for the entire 28 years of follow-up. Previous transient ischaemic attacks, atrial fibrillation, ischaemic heart disease, smoking and psychological stress were independently related to stroke for the entire follow-up, though the greatest effect was seen in the first two follow-up periods. Elevated body mass index seemed to predict stroke during the later part of follow-up.

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With our increasing elderly population, particularly with diabetes mellitus, prophylaxis for stroke prevention will have to be continued long-term. Consequently, in the presence of multiple medications and the associated issues with adherence, regular use of anti-thrombotic agents, statins and angiotensin converting enzyme inhibitors will need to be commenced early and continued over a prolonged period.

Harmsen P, Lappas G, Rosengren A et al (2006) Long-term risk factors for stroke. Twenty-eight years of follow-up of 7457 middle-aged men in Goteborg, Sweden. *Stroke* **37**: 1663–7
Whisnant JP, Wiebers DO, O'Fallon WM et al (2002) Effects of time since onset of risk factors on the occurence of ischaemic stroke. *Neurology* **58**: *787–94*