

## Ankle-brachial index is associated with site and extent of atherothrombosis

Atherothrombosis causes major cardiovascular and cerebrovascular mortality and morbidity, but early identification of individuals at risk is problematic. Ankle-brachial index (ABI) has been proposed as a simple, inexpensive test for identifying the presence of disease in the peripheral arterial bed, which indicates an increased risk of major cardiovascular events. The prospective, multicenter AGATHA study aimed to determine whether a low ABI was related to the number and site of affected vascular beds in patients with vascular disease, and to the number of risk factors present in at-risk patients without known vascular disease.

Of 8,891 patients aged  $\geq 55$  years recruited consecutively within 24 countries, 7,099 were defined as having vascular disease and 1,792 as being at risk of vascular disease ( $\geq 2$  risk factors). Nearly a third of at-risk patients had an abnormal ABI ( $\leq 0.9$ ), indicating undiagnosed peripheral arterial disease. Lower ABI was marginally associated with an increased number of risk factors ( $P = 0.02$ ), but not with the types of risk factor present. As many as 40.5% of patients with peripheral arterial disease—of whom 65.2% had one affected arterial bed, 27.6% two, and 7.1% all three—had an abnormal ABI; low ABI was associated with the site and number of affected arterial beds ( $P < 0.001$ ).

The authors conclude that ABI could be used to provide more-precise estimates of future risk of major cardiovascular events and death in both patients with vascular disease and those at increased risk, guiding treatment and disease prevention. Longer-term studies are in progress.

**Original article** Fowkes FGR *et al.* (2006) Ankle-brachial index and extent of atherothrombosis in 8891 patients with or at risk of vascular disease: results of the international AGATHA study. *Eur Heart J* 27: 1861–1867

## Multiple acute ischemic lesion pattern can occur in stroke with no embolic source

A pattern of multiple acute ischemic lesions on diffusion-weighted MRI (DWI-MRI) is thought to indicate an embolic source of stroke. In some

stroke patients with this lesion pattern, however, no embolic source can be detected, and the stroke is described as cryptogenic; in other patients, patent foramen ovale (PFO) is the only pathological finding that might operate as an embolic source. Jauss *et al.* compared the prevalence of the multiple acute ischemic lesion pattern in patients with cryptogenic stroke with that in patients with PFO.

The authors screened 650 patients with stroke who underwent DWI-MRI. Patients with carotid stenosis, a cardiac embolic source other than PFO, or an obvious stroke cause such as dissection or vasculitis, were excluded. Of the remaining 106 patients, 73 had lesions on DWI-MRI and were included in the analyses.

There was no significant difference in the occurrence of a multiple ischemic lesion pattern between patients with PFO and those with cryptogenic stroke for the entire group, or for the subgroup of younger stroke patients aged  $\leq 50$  years. Multiple lesions occurring in the posterior circulation were more common in patients with PFO than in patients with cryptogenic stroke (7 vs 0 patients;  $P < 0.05$ ), but no significant differences were seen between groups in the distribution of lesions in the anterior circulation.

The authors conclude that a multiple ischemic lesion pattern limited to the posterior circulation territory is associated with PFO presence, whereas multiple ischemic lesions in general are not a specific feature of stroke patients with PFO.

**Original article** Jauss M *et al.* (2006) Embolic lesion pattern in stroke patients with patent foramen ovale compared with patients lacking an embolic source. *Stroke* 37: 2159–2161

## The number of US citizens with AF could top 10 million by 2050

A number of studies have indicated that the age-adjusted prevalence of atrial fibrillation (AF) is increasing; however, it is currently unclear whether this increase is related to a true escalation in the incidence of AF. Miyasaka *et al.* examined the trends in age-adjusted incidence of AF, in a community-based study. The investigation included all residents of Olmsted County, MN who were  $\geq 18$  years old with electrocardiogram-confirmed AF diagnosed between 1 January 1980 and 31 December 2000. The study population comprised 4,618 individuals with a mean age of 73 years.