News in Brief

ANGIOTENSIN II VACCINE LOWERS BLOOD PRESSURE

A vaccine based on a virus-like particle has recently completed Phase IIa trials. It targets Angiotensin II, which is part of the Renin-Angiotensin-Aldosterone endocrine system that regulates blood pressure.

72 patients were randomly assigned to receive low-dose vaccine, higher dose vaccine or placebo. They found that the higher dose group had a reduction in baseline average ambulatory daytime blood pressure by 9mmHg / 4mmHg, compared with placebo. There was also a reduction in the early morning blood pressure surge of 25mmHg/13mmHg.

While a vaccine has fewer treatment compliance issues than regular oral medication, the long-term effects of provoking an autoimmune reaction against angiotensin II remain unknown.

(Source: The Lancet (2008) 371:821-827)

THROMBUS ASPIRATION IN PRIMARY PCI

The development of primary percutaneous coronary intervention (PCI) has revolutionised the treatment of ST-elevation acute myocardial infarction. Under fluoroscopic guidance, the infarct-related artery can be visualised and opened. However, one feared complication is the distal embolisation of thrombus and atherosclerotic debris – occasionally this results in successful opening of the infarct lesion, but compromise of the distal microcirculation.

A randomised trial by Svilaas and co-workers compared conventional treatment with the use of manual aspiration techniques. Success criteria included angiographic and ECG evidence of reperfusion, as well as clinical outcome. Aspiration was deemed successful when thrombus or atheroma was demonstrated on histopathological study afterwards.

Svilaas et al found an increased rate of reperfusion in the thrombus-aspiration group, using both ECG and angiogram criteria. Better reperfusion, as measured by "myocardial blush", correlated with improved survival and fewer adverse events.

(Source: NEJM (2008) 358:557-567)

VASOPRESSION VS NOREPINEPHRINE IN SEPTIC SHOCK

In the setting of intensive care for patients with refractory septic shock, vasopressors can be used to support blood pressure. In addition to the traditional catecholamines, vasopressin can also be utilised. A multi-centre randomised double-blind trial led by Russell et al compared low-dose vasopressin to low-dose noradrenaline.

When given in addition to conventional open-label vasopressors, they found that there was no significant difference in the end-points of 28-day mortality or 90-day mortality. There was also no difference in the incidence of severe adverse events – which were defined by the authors as cardiac arrests, reduced cardiac output or ischaemia involving digits or bowel.

(Source: NEJM (2008) 358:877-887)

B-CELLS: A NEW TARGET IN MULTIPLE SCLEROSIS

Rituximab, a monoclonal antibody which selectively targets CD20+ B lymphocytes, has been used in the treatment of conditions such as lymphoma. In a Phase 2 double-blind trial of 104 patients with relapsing-remitting multiple sclerosis, patients were randomised to receive intravenous rituximab or placebo. Rituximab recipients had improvement in the primary endpoint of gadolinium-enhancing lesions detected on MRI imaging of the brain, and the reduced number of lesions was sustained over 48 weeks. Rituximab recipients also had fewer relapses compared to the placebo group. However, the rituximab group had a higher number of adverse events within the 24 hours following the first infusion.

While more work needs to be done, this study suggests that B cells may be another target as researchers seek a cure for this debilitating disease. ■

(Source: NEJM (2008) 358:676-688]