◉ Articles relevant to the Focus on vascular neurology

◉ Research supports establishment of specialized TIA clinics

A quarter of strokes are preceded by a transient ischemic attack (TIA). The attacks last only minutes and recovery is quick and complete, so TIAs can easily be ignored by sufferers or missed by physicians. Even if patients do attend hospital after a TIA, immediate assessment with brain and vascular imaging and rapid initiation of preventive treatment is not the norm. To improve care for patients with TIA, Lavallée *et al*. set up the 'SOS-TIA' clinic to provide 24 h access to assessment and treatment facilities for doctors working in the administrative region of Paris.

During the period 2003–2005, the clinic admitted 1,085 patients with suspected TIA. Just over half of patients were seen within 24 h of the symptomatic episode. Neurological, arterial and cardiac imaging was performed within 4 h of admission. TIA was confirmed in 643 patients and strongly suspected in 144, and 58 patients had minor ischemic strokes. Patients began a stroke prevention program, with additional treatment as necessary, including oral anticoagulants for atrial fibrillation ($n = 30$), initiation or modification of blood-pressure-lowering or blood-lipid-lowering therapy ($n = 225$ and $n = 315$, respectively), and urgent carotid revascularization ($n = 43$). Almost three-quarters of all patients seen were sent home on the same day as admission. This prompt evaluation and treatment reduced the risk of subsequent stroke within 90 days of a TIA to a rate of only 1.24%, as compared with 5.96% as predicted by the $ABCD^2$ scores.

The authors conclude that immediate assessment and treatment in specialist clinics with 24 h access could prevent a substantial number of subsequent strokes in patients presenting with TIA.

Original article Lavallée PC *et al.* (2007) A transient ischaemic attack clinic with round-the-clock access (SOS-TIA): feasibility and effects. *Lancet Neurol* **6:** 953–960

Capsaicin facilitates pain-specific local anesthesia

Local anesthetics such as lidocaine block pain effectively, but they also impair motor and autonomic functions by indiscriminately blocking sodium channels in all neurons. Binshtok *et al.* theorized that it could be possible to exploit the transient receptor potential vanilloid type 1 (TRPV1) channel, which is sensitive to noxious heat and capsaicin, to selectively target primary sensory nociceptor neurons and thereby produce a pain-specific local anesthetic.

Electrophysiological studies in cultured adult rat dorsal root ganglion neurons demonstrated that application of extracellular QX-314—a positively charged, membrane-impermeable lidocaine derivative—had no effect on sodium channel currents when applied alone, but that when co-applied with capsaicin it produced 98 ± 0.4% inhibition of excitability, an effect limited to neurons expressing TRPV1. *In vivo*, intraplantar injection of QX-314 followed by capsaicin anesthetized adult rats to mechanical and thermal noxious stimuli for around 3 h. Injection adjacent to the sciatic nerve with QX-314 followed 10 min later by capsaicin produced a local anesthesia to noxious heat and mechanical stimuli applied to the lower limbs, without the motor deficit produced by similar injection with lidocaine alone. The QX-314 + capsaicin-injected animals showed no response to a mechanical stimulus of 57 g, whereas the threshold before sciatic injection was 15.2 ± 3.4 g ($P < 0.01$); similarly, thermal response latency increased from 14.9 ± 0.4 s before injection, to 22.3 ± 2.3 s after injection ($P < 0.05$).

The results of this study suggest that delivery of a lidocaine derivative together with a TRPV1 receptor agonist selectively inhibits nociceptors to produce a long-lasting decrease in pain without the loss of motor or autonomic responses.

Original article Binshtok AM *et al.* (2007) Inhibition of nociceptors by TRPV1-mediated entry of impermeant sodium channel blockers. *Nature* **449:** 607–610

◉ QoL is lower in female survivors of stroke even after adjustment for prognostic factors

Female survivors of stroke have been shown to have a worse outcome and poorer quality of life (QoL) than male survivors, even after adjustment for prognostic factors. Gray *et al.* used data from the Tinzaparin in Acute Ischaemic Stroke Trial (TAIST), which enrolled 1,484 patients within 48 h of stroke onset, to further determine the relationship between sex and QoL following stroke.