GLOSSARY**NATIONAL INSTITUTES OF HEALTH STROKE SCALE (NIHSS)**

A structured, clinician-rated scale incorporating physical examination, pre-set questions, and language assessment to quantify neurological deficits following stroke

VISUAL ANALOG SCALE

A line anchored by word descriptors (e.g. 'no pain' and 'very severe pain') used to assess a characteristic that ranges across a continuum of values

the clinic. They note, however, that CBH is likely to be responsible for a substantial proportion of long-term neurodevelopmental disabilities in extreme preterm infants.

Christine Kyme

Original article Limperopoulos C *et al.* (2005) Cerebellar hemorrhage in the preterm infant: ultrasonographic findings and risk factors. *Pediatrics* **116**: 717–724

Benefits of abciximab for patients with ischemic stroke

Abciximab could have beneficial effects on neurological status and size of ischemic lesions in patients with ischemic stroke, an MRI-guided trial has shown.

Abciximab is a glycoprotein IIb/IIIa receptor antagonist previously shown to induce thrombolysis and restore vessel patency in patients with acute coronary syndromes who receive coronary stents.

Mitsias and colleagues recruited 29 patients with supratentorial stroke to take part in a single-center, open-label trial. Trial participants received abciximab therapy within 3–24 h of stroke onset. Following treatment, patients were monitored for bleeding and changes in hemoglobin levels, hematocrit and platelet count. Neurological deterioration was also measured at regular intervals using the NATIONAL INSTITUTES OF HEALTH STROKE SCALE (NIHSS). Post-treatment primary outcome measures were changes in NIHSS scores at 48–72 hours and ischemic lesion size on diffusion-weighted imaging at 24-hour follow-up.

NIHSS scores decreased for most patients after abciximab therapy, indicating that their neurological status had improved. Furthermore, there was a reduction in the size of ischemic lesions in 27% of patients. No treatment-related deaths, symptomatic intracranial hemorrhages or major systemic hemorrhages were observed.

Despite the small number of patients and uncontrolled nature of this study, the authors conclude that abciximab is relatively safe when used to treat patients with ischemic stroke within a 3–24-hour window, and that the drug could attenuate both neurological deterioration and ischemic lesion growth.

Claire Braybrook

Original article Mitsias PD *et al.* (2005) MRI-guided, open trial of abciximab for ischemic stroke within a 3- to 24-hour window. *Neurology* **65**: 612–615

Nocturnal back pain: useful diagnostic indicator of serious spinal pathology?

Severe back pain at night can be associated with serious spinal pathology and is therefore a common reason for urgent referral to a back pain triage clinic, but guidance in this area varies considerably. Harding *et al.* evaluated 482 patients attending a back pain triage clinic between April and September 2002, to determine whether nocturnal back pain is a useful diagnostic indicator of serious spinal pathology.

Back pain at night was reported in 213 patients (44%); 90 of these had pain every night. Local guidelines identified the need for MRI in 135 patients. No serious pathologies were seen; however, degenerative disk disease was commonly identified by MRI, with 'simple' degeneration (degeneration not associated with other pathologic findings) affecting significantly more patients suffering from nightly back pain than those experiencing occasional night pain ($P < 0.001$). Oswestry Disability Index, Hospital Anxiety Depression Scale and VISUAL ANALOG SCALE scores were significantly higher (i.e. worse) in patients with nightly back pain than in those with no or occasional nocturnal back pain. A limitation discussed by the authors, however, is that, as the Oswestry Disability Index takes sleeping disturbance into account, it is unsurprising that patients with nightly back pain score more highly than those with occasional pain.

Harding *et al.* conclude that, although nocturnal back pain is an important symptom, it is not a specific marker for serious spinal pathology. Further studies are required to clarify the importance of nocturnal back pain and other factors in guiding clinical decisions.

Rebecca Ireland

Original article Harding IJ *et al.* (2005) The symptom of night pain in a back pain triage clinic. *Spine* **30**: 1985–1988

Neurosurgical clipping versus endovascular coiling to treat ruptured intracranial aneurysm

A recent paper published in *The Lancet* has compared neurosurgical clipping with endovascular coiling in patients with ruptured intracranial aneurysm. Of the two treatments,

endovascular coiling was associated with the lowest risk of death or dependency at 1 year.

The International Subarachnoid Aneurysm Trial (ISAT) included 2,143 patients at 42 neurosurgical centers. All patients had subarachnoid hemorrhage due to intracranial aneurysm and were randomized to endovascular detachable-coil treatment ($n=1,073$) or neurosurgical clipping ($n=1,070$). In 2002, an interim analysis showed that patients treated with endovascular coiling were more likely to achieve independent survival at 1 year; the latest results confirm these findings and provide information on subgroup analyses and secondary outcomes.

After the first procedure, the endovascular group showed a highly significant reduction in seizures when compared with the neurosurgery group (relative risk 0.52; 95% CI 0.37–0.74). During the first year after treatment, death or dependency was reported in 23.5% of patients randomized to endovascular coiling, compared with 30.9% of those in the neurosurgical clipping group. This corresponded to an absolute risk reduction of 7.4% (95% CI 3.6–11.2%; $P=0.0001$) in the endovascular treatment group. Although follow-up continues, the data available thus far suggest that the survival benefit might persist for up to 7 years.

Ruth Kirby

Original article Molyneux AJ *et al.* (2005) International subarachnoid aneurysm trial (ISAT) of neurosurgical clipping versus endovascular coiling in 2143 patients with ruptured intracranial aneurysms: a randomised comparison of effects on survival, dependency, seizures, rebleeding, subgroups, and aneurysm occlusion. *Lancet* **366**: 809–817

Understanding risk factors for childhood stroke: a feasibility study

Little is known about the risk factors for childhood stroke. Indeed, the US National Institute of Neurological Disorders and Stroke has highlighted the need for more work in this area. A recent, community-based analysis by Zahuranec and colleagues suggests that large, multicenter studies—or even a national surveillance system—are needed if useful information is to be generated.

As part of the Brain Attack Surveillance in Corpus Christi (BASIC) project in Texas, the investigators recorded the incidence of pediatric stroke during 2002 and 2003. The study population of approximately 92,000 included

individuals aged >1 month and <20 years, and comprised equal numbers of Mexican Americans and non-Hispanic whites.

According to discharge diagnosis codes, there were 15 acute cerebrovascular events during the study period. Following examination of the medical records, eight of these cases were validated as ischemic stroke, transient ischemic attack, subarachnoid hemorrhage, or intracerebral hemorrhage. The corresponding annual incidence rate of childhood stroke was calculated as 4.3 per 100,000 (95% CI 1.9–8.5). On the basis of this information and assuming a risk ratio of 1.3, the authors estimated that a sample study population of >3 million would be needed for a 4-year, case-control study of risk factors such as gender. Less-common risk factors, such as factor V Leiden heterozygosity, would call for much larger study populations, as would the analysis of stroke by subtype.

In conclusion, an improved understanding of the risk factors for childhood stroke will require long-term, large-scale studies; the authors invite further debate on whether such investment is warranted.

Ruth Kirby

Original article Zahuranec DB *et al.* (2005) Is it time for a large, collaborative study of pediatric stroke? *Stroke* **36**: 1825–1829

Greatest infectivity associated with smaller subfibrillar particles

A recent study by Silveira *et al.* investigated the infectivity of prion particles associated with transmissible spongiform encephalopathies. It is known that these diseases can be transmitted between organisms by prions containing an abnormal form of the PrP protein (PrP^{res}), which can convert normal PrP protein to PrP^{res}. The issue of whether the most infectious prions reside within the large amyloid fibrils that characterize the disease, or within much smaller subfibrillar particles, however, has been open to question.

The researchers analyzed PrP^{res}-containing aggregates using fractionation, light scattering and non-denaturing gel electrophoresis. They compared the infectivity and *in vitro* converting activity of particles ranging in size from large amyloid fibrils to the previously suggested smallest possible infectious units of 50–150 kDa (corresponding to 2–6 PrP