

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