

11<sup>th</sup> May 2016

## Highlights from the Second Plenary Session and Second Day of the 2nd European Stroke Organisation Conference 2016 (ESOC 2016) in Barcelona.

Over 3700 delegates attended ESOC 2016 today in Barcelona. Today's program included teaching courses, scientific presentations, and presentations from major clinical trials. These trials will have an immediate impact on how we care for patients with stroke.

Highlighted trials from the second plenary session included;

### **Platelet Transfusion in Intracerebral Hemorrhage (PATCH)**

Principal Investigators: Prof Yvo Roos, Academic Medical Center, University of Amsterdam, Netherlands; Prof Charlotte Cordonnier, INSERM, the University of Lille, France; Prof Rustam Al-Shahi, Centre for Clinical Brain Sciences, University of Edinburgh, UK

This study, which is now published in the Lancet, recommends a change in guidelines for treating patients who suffer a stroke caused by bleeding into the brain, known as intracerebral haemorrhage (ICH), while regularly taking aspirin. Prof Charlotte Cordonnier said: "Each year, about two million adults worldwide suffer ICH, which accounts for half of all stroke deaths. Two out of five people die within one month, and a further two out of five become dependent on carers." Prof. Yvo Roos, who initiated the study, said: "It had been thought that platelets – blood cell fragments that play a vital role in blood clotting – could block ruptured blood vessels and prevent further bleeding into the brain... until now, a treatment known as platelet transfusion has been used by some doctors in the hope that it will aid recovery. Stroke patients who participated in the clinical trial received standard stroke care, but they were also randomly assigned either the platelet transfusion or no extra treatment.

### **Key Findings:**

- The odds of death or dependency were higher in patients who received platelet transfusions (odd ratio 2.05, 95% CI 1.18–3.56).

Professor Rustam Al-Shahi Salman, of the University of Edinburgh's School of Clinical Sciences, who co-led the study, said: "Our study shows that platelet transfusion seems harmful, and certainly is not beneficial, for people who take aspirin and have a stroke caused by bleeding into the brain. These findings should change clinical guidelines."

See Profs Roos, Cordonnier and Al-Shahi Salman discuss the results of this seminal study with Prof Martin Dichgans from the European Stroke Organisation at [esoc2016.com](http://esoc2016.com)

And read the paper in full at

[http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)30392-0/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)30392-0/abstract)

### **International Stroke Trial – 3 (IST-3)**

Principal Investigators: Prof Peter Sandercock, Dr William Whiteley, University of Edinburgh, UK; Prof Eivind Berge, Oslo University Hospital, Norway

Tissue plasminogen activator (r-tPA) is a clot-busting treatment that improves the chance of making a good recovery when given promptly to patients with ischaemic stroke (a stroke due to a blocked artery in the brain). However, clot-busting treatment can sometimes cause bleeding in the brain. In this analysis, long-term outcomes in the Third International Stroke Trial (IST-3) were assessed. IST-3 is the largest ever trial of clot-busting treatment for ischaemic stroke.

#### **Key Findings:**

- 1947 participants were followed up from the IST-3 for three years
- Although r-tPA was associated with a higher risk of death within the first 7 days of stroke, death was reduced in the subsequent three years.
- Overall there was no increase in death rate following treatment with alteplase.

Dr Whiteley said: “As a clinician I can reassure acute ischaemic stroke patients that thrombolysis does not worsen long-term survival, despite the risk of intra-cerebral bleeding. As researchers, we found that using electronic health records for long-term follow up was cheap, simple and informative. We encourage trialists to incorporate consent for follow up into national electronic health records in all their studies.”

See Prof Berge and Dr Whiteley discuss the results of this seminal study with Prof Heinrich Mattle, from the European Stroke Organisation at [esoc2016.com](http://esoc2016.com)

### **Clot Lysis: Evaluating Accelerated Resolution of Intraventricular Hemorrhage Phase III (CLEAR-III)**

Principal Investigator: Prof Daniel Hanley, Acute Brain Injury Outcomes, Johns Hopkins University, USA, on behalf of the CLEAR III investigators.

Professor Daniel Hanley and Dr Wendy Ziai presented one-year follow-up results of this trial in patients with intraventricular haemorrhage (IVH). IVH is one of the most severe types of stroke, with very high mortality rates. CLEAR-III compared the use of the clot busting treatment (alteplase) delivered via a catheter into the brain with placebo treatment. The aim was to see if alteplase treatment removed the blood clot and improved clinical outcomes All 500 included patients received best care in an intensive care unit.

#### **Key Findings:**

- The trial did not meet the primary endpoint
- Mortality was lower in alteplase treated patients. For each 9 patients treated with alteplase, one life was saved.
- 50% of patients had a good functional outcome in both groups.
- Outcomes appeared best in patients with the greatest amount of clot removal.

Dr Ziai said that “alteplase treatment appears to lower mortality and although functional outcomes were not obviously better, most survivors were at home or had reasonable quality of life. We need to assess if greater amounts of clot removal are more effective in further studies.”

See Prof Daniel Hanley discuss the results of this seminal study with Prof Charlotte Cordonnier at [www.esoc2016.com](http://www.esoc2016.com)

### **Vertebral Artery Ischaemia Stenting Trial (VIST)**

Principal Investigators: Professor Hugh Markus, University of Cambridge, UK

Narrowing of the large blood vessels at the back of the brain (vertebral stenosis) accounts for 20% of ischaemic stroke and is associated with a high rate of recurrent strokes after an initial event. These narrowings can be opened up with a metallic stent applied through the blood vessels, but it is unknown if this intervention is better than standard medical care at preventing future strokes. In VIST, 179 patients with >50% stenosis were randomized to received standard medical care versus stenting and have been followed up for at least 1 year after their initial event.

#### **KEY FINDINGS:**

- Only 2 / 61 patients had a stroke during stenting, both occurring during stenting of higher risk, intracranial stenoses.
- During follow up, there were fewer strokes in the stented arm (5) than the best medical treatment arm (12) but this difference was not significantly different (HR 0.40, 0.14-1.13 p=0.08).
- In an exploratory analysis, this effect may be greater in patients treated within the first 2 weeks after their event.

Prof Markus said: “VIST confirms a high rate of recurrent stroke in patients with significant vertebral stenosis. Stenting, particularly for extracranial stenosis, can be performed safely in this population and may be associated with a reduced rate of recurrent stroke, but further studies are required.”

See Prof Markus discuss the results of this seminal study at [www.esoc2016.com](http://www.esoc2016.com)

## **Sedation and Airway Treatment During Endovascular Treatment: The Randomised Trial SIESTA**

Principal Investigator: Professor Julian Bosel, University Hospital Heidelberg, Heidelberg, Germany.

Professor Bosel presented results from this clinical trial of 150 patients with ischaemic stroke who were undergoing endovascular treatment. Endovascular treatment is effective at improving outcomes in patients with ischaemic stroke and proximal large artery occlusion. However, it is unclear whether performing endovascular treatment with the patient under conscious sedation was better than performing the procedure under general anaesthetic with intubation. This was tested in SIESTA.

### **Key Findings:**

- There were no differences between the two anaesthetic approaches as assessed by the primary endpoint (change in stroke severity at 24-hours).
- There were no differences in any subgroups.
- 11 of the 77 patients who were randomised to conscious sedation required conversion to general anaesthetic.

Dr Bosel said during his presentation “with strict adherence to protocols, conscious sedation and general anaesthetic likely give similar peri-interventional outcomes.”

See Prof Bosel discuss the results of this seminal study with Professor Heinrich Mattle at [www.esoc2016.com](http://www.esoc2016.com)

## **A Randomised Comparison of Synchronous CABG and Carotid Endarterectomy Vs. Isolated CABG in Patients with High-Grade Carotid Stenosis (CABACS).**

Principal Investigator: Professor Christian Weimar, Universitätsklinikum Essen, Essen, Germany.

Professor Weimar presented results from the CABACS trial in patients with asymptomatic high grade carotid artery stenosis scheduled for elective coronary artery by-pass grafting (CABG). It is recognised that these patients are at high risk of peri-operative complications such as stroke or death. CABACS tested whether performing a CABG alone was better than a combined carotid endarterectomy prior to the CABG procedure. The trial was stopped early by the funder because of slow recruitment. Although this limits firm conclusions, there were 12 peri-operative strokes or deaths in the first 30 days in the group having both procedures and only 6 in the group who received only CABG.

**In addition to these major results, results were published from:**

**Network Meta-analysis of antiplatelet therapy after stroke:** Dr Greving from the

University Medical Center Utrecht, Netherlands presented results of a network meta-analysis of commonly used antiplatelet strategies after ischaemic stroke. It showed that, compared with aspirin, clopidogrel use and use of aspirin combined with dipyridamole provides greater protection against recurrent vascular events. Clopidogrel had the lowest risk of bleeding in comparison to both aspirin use and use of aspirin in combination with dipyridamole. Dr Greving said “Clopidogrel and aspirin combined with dipyridamole have a comparable risk-benefit profile for secondary prevention after cerebral ischaemia.”

**Factor Xa inhibitors Vs. vitamin K antagonists for preventing cerebral or systemic embolism in patients with atrial fibrillation: An updated Cochrane systematic review.** Dr Berge from Oslo University Hospital, Oslo, Norway presented this analysis which included data on over 67,000 patients. The use of Factors Xa Inhibitors led to a 13% relative reduction in rate of stroke or systemic embolism compared to warfarin treatment. Bleeding was less common with Factor Xa Inhibitors and in particular, the rate of intracerebral haemorrhage was reduced by half. In absolute terms the benefits were small in magnitude in comparison to warfarin.

**Weekly variation in stroke healthcare quality across day and time:** Results from an analysis of over 74000 patients with stroke in England and Wales were presented in the poster session. It found evidence that stroke care varies throughout the week, highlighting several areas where care could be improved. The study is published in full today in the Lancet ([www.thelancet.com](http://www.thelancet.com)) with an accompanying editorial. Dr Bray, an author of the study said “Instead of just comparing weekends and weekdays, we have looked at variation across the whole week and shown that the weekend effect is a major simplification of patterns of variation in care that actually occur across the whole week. Reducing this type of variation could be a important for quality improvement in stroke care.”

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