Medical Xpress

'Risky' stroke prevention procedure may be safe in some patients

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(Medical Xpress)—A major study published today in the *Lancet Neurology*, funded by the Medical Research Council (MRC) and the Stroke Association, found that stenting in the carotid artery (in the neck) is as safe as carotid artery surgery at reducing stroke risk in some patients.

The research, which was part of the International Carotid Stenting Study (ICSS), reveals that stenting is equally as safe as surgery in patients who show few signs of changes to brain tissue (known as white matter lesions) in a brain scan.

However, patients whose brain scans do reveal changes to brain tissue, potentially caused by aging or conditions such as high blood pressure, should not be treated by stenting.

The study, which was run from UCL, highlights the importance of carrying out brain scans in patients undergoing either procedure in order to determine which is most suitable.

One in five strokes are caused by narrowing of the carotid arteries due to a build-up of fatty deposits on the artery walls. However, the risk of stroke can be reduced by surgery to clean out the deposits or through stenting to widen the artery. Both procedures carry risks and in a minority of cases they can cause a stroke at the time of treatment. Earlier results from the ICSS have shown that although stenting is less invasive than surgery, the associated risks of stroke are higher.

This study looked for white matter lesions in the brain scans of patients taken before they underwent either surgery or stenting. One in ten patients with a greater than average number of white matter lesions had a stroke within 30 days of stenting treatment - three times higher than the risk of stroke after surgery.

In contrast, in patients with less white matter damage, the risk of stroke was much lower and the same after both stenting and surgery.

Martin Brown, Professor of Stroke Medicine at the UCL Institute of Neurology and the Chief Investigator of ICSS, said: "The results of this trial demonstrate convincingly for the first time that the severity of white matter damage shown on CT or MRI brain scans should be taken into account when patients are offered treatment for carotid artery narrowing.

"Until now there has not been any conclusive way to select patients for stenting rather than surgery, although it was known that stenting was riskiest in older patients. This research suggests that patients with less than average amounts of white matter damage can be safely treated with stenting rather than surgery, but surgery should be the preferred treatment in patients with more extensive white matter damage on a brain scan."

Dr Clare Walton, Research Communications Officer at the Stroke Association said: "The results of this study are encouraging and demonstrate that stenting could be as safe as preventative surgery in some patients.

"Stenting is less invasive and traumatic than surgery. It is therefore likely that it will be the first choice of treatment for many patients and we're pleased that it could be an option for more people. The results of this study also highlight the importance of carrying out brain scans to

establish previous damage or changes to the brain before any type of procedure is undertaken. We look forward to the results of further research in this area."

ICSS was run from UCL and included 50 hospital centres from Europe, Canada, Australia and New Zealand. 14 hospitals in the UK took part. Patients were recruited if they were found to have significant narrowing of a carotid artery that had already caused a stroke from which the patient had made a good recovery. Half the patients were randomly allocated treatment of the carotid narrowing by stenting and half were allocated surgery and were then seen regularly to find out how they got on.

Provided by University College London

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