The Asymptomatic Carotid Surgery Trial-2 (ACST-2): an ongoing randomised controlled trial comparing carotid endarterectomy with carotid artery stenting to prevent stroke

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Plain English summary

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Plain English summary

Stroke is a leading cause of death and disability worldwide. Narrowing in the carotid arteries (the main arteries in the neck that supply blood to the brain), caused by a build-up of fatty deposits, is responsible for around 20% of all strokes. People with this narrowing may be asymptomatic, that is, they may have no symptoms until fragments of the fatty deposits fall off, lodge in the brain and cause a stroke. The standard procedure to prevent this, carotid endarterectomy (CEA), involves operating on the neck to remove the fatty deposits from the artery before they cause stroke-like symptoms or a major stroke. This surgery involves some immediate risk but, if successful, provides long-term protection against the narrowing that causes a stroke. An alternative procedure is carotid artery stenting (CAS), which involves placing a fine wire mesh tube (called a stent) inside the narrowed artery to hold it open. Stenting avoids neck surgery, but we do not yet know how it compares with surgery in terms of the immediate risks or long-term benefits, as previous studies comparing these procedures in asymptomatic patients were too small.

The second Asymptomatic Carotid Surgery Trial (ACST-2) will compare the short-term risks and long-term benefits of carotid surgery with carotid stenting in 3600 patients with asymptomatic carotid artery lesions. By the end of March 2016, ACST-2 had included 2125 patients, nearly two-thirds of the planned recruitment of 3600. A total of 1061 patients were randomly allocated to CEA and 1064 were randomly allocated to CAS. Further funding has been secured and recruitment continues, with completion anticipated by the end of 2019. The ACST-2 will report initial results in 2021 with two main aims: first, to compare the small (about 1%), but important, early risk of fatal or disabling stroke damage from the procedure itself (within 30 days of the intervention) and, second, to compare the long-term annual stroke risks after CEA and CAS.

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