

Hospital team significantly reduced risk of further vascular events after 'mini strokes'

October 27 2011

Patients who had a transient ischaemic attack (TIA), sometimes referred to as a "mini stroke", were much less likely to experience further vascular events in the first year if their care was co-ordinated by a special hospital team. That is the key finding from a study published in the November issue of the *European Journal of Neurology*.

Researchers from the Department of Neurology at Aarhus University Hospital in Denmark studied 306 patients admitted to the hospital with a TIA. They found that when the patients were treated by an acute TIA team their cumulated risk of having a stroke in the first seven days was 65% lower than expected. The cumulated risk in the first 90 days fell by 74%.

"The aim of our study was to see if patients had better [clinical outcomes](#) if they were under the care of a special team, which integrated [outpatient care](#) and stroke unit facilities and provided on-going nurse-led counselling" says lead author Dr Paul von Weitzel-Mudersbach.

"TIA, which is caused by a temporary lack of blood to part of the brain, is a serious condition associated with a high short-term risk of ischaemic stroke. Previous research has shown that the cumulated [stroke risk](#) in the first three months after a TIA is ten to 12% in unselected patients and more than 30% in patients with carotid stenosis, a dangerous narrowing of the largest blood vessels that deliver blood to the brain.

"Although urgent intervention has been shown to reduce the risk of

stroke, a number of previous studies have shown poor long-term drug compliance in many patients."

The patients were referred directly to the acute TIA team by their family doctor or ambulance, bypassing the emergency department. Patients who had suffered a TIA in the last 48 hours, and those with multiple TIA, faced a high risk of stroke and were admitted to the stroke unit. This offered the option for immediate preventative action, including thrombolysis drugs, to break up [blood clots](#) in the case of [recurrent stroke](#). The other patients were seen in the outpatients department within three days of referral.

All the patients seen by the team received acute treatment with antithrombotic and cholesterol lowering drugs and were offered fast-track surgery if they had [carotid stenosis](#). Follow-up included nurse-conducted health counselling after seven, 90 and 365 days. Each contact included the importance of [secondary prevention](#), such as [drug compliance](#) and stopping smoking.

Key findings of the study included:

- Just under two-thirds of the patients were admitted immediately after their TIA (65%) with the rest being seen as outpatients. Inpatient stays averaged one day.
- Over half (58%) were seen within 24 hours of their TIA and 70% within 24 hours of the call for attention. The figures at one week were 76% and 89% respectively.
- Just over 5% had a stroke, non-fatal heart attack or died from a vascular event within a year of their TIA.
- The cumulated stroke risk was calculated and compared with the ABCD2 score, an established method of identifying individuals with a high early risk of stroke after a TIA. The actual scores in

the Aarhus study were 1.6% and 2% after seven and 90 days, significantly lower than the ABCD2 predicted stroke scores of 4.5% and 7.5%.

- Early surgery to remove the build up of plaque in the carotid blood vessels was performed in 8.5% of patients. However, the authors believe this only played a minor role in the reduced risk.
- The majority of the patients (95%) fulfilled at least one secondary prevention measure: reduced blood pressure, reduced cholesterol, no smoking and self-reported adherence to antithrombotic treatment. 48% achieved three out of the four targets.
- Most of the patients (93%) adhered to their antithrombotic treatment.
- More than 60% of the patients who smoked at the time of their TIA changed their smoking habits - 31% quit and 29.5% reduced their smoking by at least 50%. Most of the changes happened in the first seven days.

"Our study shows that urgent treatment of patients with TIA is feasible and associated with a substantial reduction in stroke risk during the first three months, which is consistent with previous studies from the UK and France" says Dr von Weitzel-Mudersbach.

"We believe that early and aggressive antithrombotic treatment may play a major role in the reduction of short-term [stroke](#) risk in most patients. Meanwhile, the combination of secondary prevention efforts with a relatively high compliance rate - including the essential telephone follow-up provided by a specially trained nurse in the first three months - was probably responsible for the low long-term risk of adverse clinical outcome.

"Treating TIA by deploying a specialist team that can admit [patients](#) when the risk of recurrent symptoms is highest and prompt thrombolysis

can be used, combined with nurse-conducted health counselling, seems to be effective."

More information: Low risk of vascular events following urgent treatment of transient ischaemic attack: the Aarhus TIA study. Weitzel-Mudersbach et al. *European Journal of Neurology*. 18, pp1285. (November 2011). [doi:10.1111/j.1468-1331.2011.03452.x](https://doi.org/10.1111/j.1468-1331.2011.03452.x)

Provided by Wiley

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