

Haga Teaching Hospital

Implication of routine carotid artery duplex before transcatheter aortic valve implantation

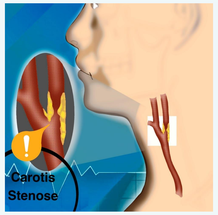
Sayonara M. Daal [a], Floris J. Heinen [a], Carl E. Schotborgh MD [c], Ali M. Keyhan-Falsafi MD [a], Gerard J.F. Hoohenkerk MD, PhD [a], Khalil Ayan MD [a], Serena Mariani MD [a], Dénes L.J. Tavy MD [b], Paulien M. van Kampen [d] and Rudolf W.M. Keunen MD, PhD [b]

a Department of Cardiac Surgery, Haga Teaching Hospitals, The Hague, The Netherlands, b Department of Neurology and Clinical Neurophysiology, Haga Teaching Hospitals, The Hague, The Netherlands, c Department of Cardiology, Haga Teaching Hospitals, The Hague, The Netherlands, d Research and innovation, Bergman Clinics, Naarden, The Netherlands

BACKGROUND

Transcatheter Aortic Valve Implantation (TAVI) is complicated by a stroke in 2-6% of the patients. Most strokes occur within the first 2 weeks.

TAVI is increasingly used for patients with severe aortic valve stenosis, but whether the presence of asymptomatic carotid artery disease has an increased impact on outcome remains unclear. The present study investigates if pre-TAVI carotid duplex can predict early stroke risk.



METHODS

We included 436 consecutive TAVI patients at our institution between January 2014 and December 2019. Patient characteristics and procedural parameters were recorded. Carotid duplex was systematically performed as part of the work-up in these patients.

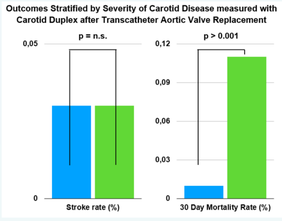
The primary endpoint was the association between carotid artery stenosis (CAS) and early stroke, defined as a stroke within 30 days post TAVI. Strokes were classified as embolic or hemodynamic, based on clinical characteristics.

Secondary endpoints were the association of CAS with the occurrence of transient ischemic attack (TIA), delirium or mortality within the first 30 days. Statistical significance was set at $p < 0.05$.

RESULTS

High-grade carotid artery stenosis or occlusion was present in 8.0% and was associated with a significant 30-day mortality, not stroke risk.

Early strokes occurred in 2.75% of (n = 12) and were classified as embolic. In the combined endpoint of stroke, TIA and delirium within 30 days there was an occurrence of 10.3%.



CONCLUSIONS

The severity of CAS was not associated with a higher risk of stroke or delirium.

In addition, severe CAS appeared to be a significant risk factor for early mortality and TIA.

For more information feel free to contact s.m.daal@hagaziekenhuis.nl