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Carotid bifurcation resection and interposition of a polytetrafluorethylene graft (BRIG) for carotid disease: Alternative to the CEA?

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Carotid endarterectomy (CEA) is the gold standard for the treatment of carotid artery stenosis. CEA can be challenging, even technically impossible. An alternative technique is carotid bifurcation resection and interposition of a polytetrafluorethylene graft (BRIG). In our Department of Vascular Surgery 130 BRIG procedures were performed between 2006 and 2015. All procedures were performed by one surgeon. The majority of procedures were for occlusive disease (98%) and 40% of the patients had a symptomatic stenosis. Procedure time and clamping time were significantly shorter in the BRIG group compared to the CEA group, performed by the same surgeon. A shunt was never used. The 30-day mortality was 0.8%. The stroke rate was 1.5% (2 patients). These 2 patients had a minor stroke. One stroke was because of graft kinking which led to graft thrombosis. A thrombectomy and shortening of the graft was performed. In the second case, cerebral hypoperfusion was caused by a long clamping time combined with an incomplete circle of Willis (absence of anterior and posterior communicating artery). Mean follow-up time was >30 months. Only 2 restenosis and 2 graft occlusions were observed. The 2 restenosis occurred at the proximal anastomosis and none at the distal anastomosis. We hypothesize that this is due to the lower peripheral resistance of the cerebral *circulation*. A minor stroke occurred in both occlusions of the graft. BRIG is a promising alternative option in the treatment of carotid artery disease. Surgical technique is simplified. There is no need for an endarterectomy, distal intima fixation is no longer required and there is no thrombogenic surface left behind. Our results of the BRIG technique in terms of mortality, morbidity and restenosis are better than the CEA. In order to confirm these excellent results, prospective studies in a larger population are required.

Biography

Philippe De Vleeschauwer has completed his PhD from the University of Leuven and Post-doctoral studies from the Cologne University School of Medicine. He has published more than 20 papers in reputed journals and has been serving as an Editorial Board Member of *Annals of Vascular Surgery*.

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