

Regional Anesthesia in Carotid Surgery: A Single Center Experience

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Abstract : Patients with carotid stenosis, which may be asymptomatic or symptomatic in the form of transient ischaemic attack (TIA), amaurosis fugax, or stroke, often require an endarterectomy to reduce stroke risk. Risks of this procedure include stroke, death, myocardial infarction, and cranial nerve damage. Carotid endarterectomy is most commonly performed under general anaesthetic, however, it can also be undertaken with a regional anaesthetic approach. Our tertiary centre generally performs carotid endarterectomy under regional anaesthetic. Our major tertiary hospital mostly utilises regional anaesthesia for carotid endarterectomy. We completed a cross-sectional analysis of all cases of carotid endarterectomy performed under regional anaesthesia across a 10-year period between January 2010 to March 2020 at our institution. 350 patients were included in this descriptive analysis, and demographic details for patients, indications for surgery, procedural details, length of surgery, and complications were collected. Data was cross tabulated and presented in frequency tables to describe these categorical variables. 263 of the 350 patients in the analysis were male, with a mean age of 71 ± 9 . 172 patients had a history of ischaemic heart disease, 104 had diabetes mellitus, 318 had hypertension, and 17 patients had chronic kidney disease greater than Stage 3. 13.1% (46 patients) were current smokers, and the majority (63%) were ex-smokers. Most commonly, carotid endarterectomy was performed conventionally with patch arterioplasty 96% of the time (337 patients). The most common indication was TIA and stroke in 64% of patients, 18.9% were classified as asymptomatic, and 13.7% had amaurosis fugax. There were few general complications, with 9 wound complications/infections, 7 postoperative haematomas requiring return to theatre, 3 myocardial infarctions, 3 arrhythmias, 1 exacerbation of congestive heart failure, 1 chest infection, and 1 urinary tract infection. Specific complications to carotid endarterectomy included 3 strokes, 1 postoperative TIA, and 1 cerebral bleed. There were no deaths in our cohort. This analysis of a large cohort of patients from a major tertiary centre who underwent carotid endarterectomy under regional anaesthesia indicates the safety of such an approach for these patients. Regional anaesthesia holds the promise of less general respiratory and cardiac events compared to general anaesthesia, and in this vulnerable patient group, calls for comparative research between local and general anaesthesia in carotid surgery.

Keywords : anaesthesia, carotid endarterectomy, stroke, carotid stenosis

Conference Title : ICTSN 2021 : International Conference on Treatments and Surgery in Neurology

Conference Location : Rome, Italy

Conference Dates : March 04-05, 2021