

Risk and Results of Concurrent Cardiac and Carotid Surgery: Single Center Experience

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Abstract

Patients who are having open heart surgery may be at higher risk and have worse outcomes if they have carotid artery stenosis. The study's goal was to analyse the risks and results of concurrent carotid and heart surgery. Over the course of a 5-year period, we looked back at the medical records of 100 patients who had simultaneous open-heart surgery and carotid surgery (from 2006 to 2010). The mean age of the patients, who were split between 30 women and 70 men, was 70.9 years (median: 71.8 years). On 73 patients, coronary bypass grafting (CABG) was performed; on 18 patients, CABG and valve surgery were combined; on 7 patients, CABG was combined with other procedures; and on 3 patients, valve surgery was performed alone. 51 individuals had bilateral carotid artery disease, including 12 occurrences of contralateral carotid artery blockage. 71 patients underwent carotid artery patch plasty, and 29 underwent eversion method. An intraluminal shunt was employed in 75 instances. The 30-day mortality rate was 7%, and the causes were diffuse cerebral embolism (n=1), metabolic disruption (n=1), and cardiac problems (n=5). There were no fatalities as a result of carotid surgery. Following surgery, one patient experienced acute cerebral ischemia, whereas the other experienced a stroke with a minor, long-term neurological disability (Rankin level 2). The risk of simultaneous open-heart surgery and carotid artery surgery is low. The outcome is affected by the underlying heart condition.

Keywords: Carotid artery stenting; Carotid endarterectomy; Coronary artery bypass surgery; Carotid stenosis; Stroke

Introduction

Depending on the type and intricacy of the surgery, stroke is a feared consequence. Following heart surgery, there is an increased risk of stroke. Carotid artery stenosis has been identified as a risk factor for postoperative stroke. The mechanism of brain injury associated with cardiac surgery is multifaceted. Carotid stenosis treatment may therefore reduce postoperative neurologic sequelae. The phased method and the simultaneous approach are the two main management approaches that have emerged over time for the management of concurrent carotid stenosis. The investigation of the results and risks of carotid artery surgery and heart surgery performed together in our hospital was the goal of the current study. We questioned whether this method is safe or if it puts our patients at a very high danger [1].

The most typical psychiatric symptom seen in an intensive care setting is delirium. The Diagnostic and Statistical Manual, Fourth Edition (DSM-IV), published by the American Psychiatric Association, lists four key characteristics of delirium: disturbance of consciousness, a change in cognition, or the development of a perceptual disturbance, with acute onset and fluctuating course, and evidence from the history, physical examination, or laboratory findings that the disturbance is brought on by a medical condition, substance intoxication, or medication side effect [2].

In patients undergoing general surgery, the incidence of postoperative delirium ranges from 10 to 46%, and it rises to 50-67% in that receiving heart surgery. Wide discrepancies in reported incidence ca

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and 30 women) underwent carotid endarterectomy (CEA) and open heart surgery simultaneously (2006 to 2010). 440 isolated carotid artery operations were carried out concurrently. Retrospective reviews and analyses of the clinical data and the results were conducted. The study was conducted in accordance with the local ethics committee's rules. Doppler sonography, duplex imaging, and angiography all supported the diagnosis of carotid stenosis (computed tomography, magnetic resonance, or rarely selective angiography). Coronary angiography and echocardiography were used for cardiac diagnosis [5].

Clinical symptoms and the severity of underlying disorders, such as unstable or recurrent angina, acute myocardial infarction, dyspnea at rest, or mild exercise, were used to determine the need for heart surgery. Using the Intensive Care Delirium Screening Checklist, delirium was identified (ICDSC). Altered level of consciousness, inattention, disorientation, hallucination-delusion-psychosis, inappropriate speech or mood, psychomotor agitation/retardation, sleep-wake cycle disturbance, and fluctuating course of the aforementioned items are the eight fields on which the evaluation is based. Each field is worth one point. When the ICDSC score is four or higher, delirium is present. During the patients' stay in the ICU, delirium screening was initiated 24 hours after surgery and repeated every 8 hours. Because the goal of this study was to look into early delirium after cardiac surgery, the screening period was set at 5 days [6].

The heart treatment was preceded by carotid surgery. Transcranial Doppler, somatosensory evoked potentials, or electroencephalogram was all used as neuromonitoring methods, at least in part. The carotid arteries were isolated after an oblique cervical incision. The carotid arteries were constricted, for example, after 5,000 units of heparin were administered. The surgical procedure for the carotid surgery was chosen by the surgeon. In the case of patch surgery, a longitudinal incision was made in the common carotid artery that continued past the distal extent of the plaque to the internal carotid artery. When using the eversion technique, the internal carotid artery was severed at the bifurcation. Both times, the atherosclerotic plaque was eliminated according to protocol [7].

Cardiac surgery began following carotid artery surgery. When coronary artery bypass grafting (CABG) and planned use of venous grafts were included, saphenous vein harvesting was done concurrently with carotid surgery. Before the cardiopulmonary bypass (CPB) was set up, complete anticoagulation (300 units/kg heparin) had been

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