

ASSESSMENT OF CAROTID ENDARTERECTOMY IN A SAMPLE OF IRANIAN PATIENTS

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Abstract

BACKGROUND: Carotid endarterectomy (CEA) is recommended in patients with symptomatic and some times asymptomatic carotid stenosis in vascular surgery centers with low perioperative complication rate.

METHODS: A stenosis retrospective study was carried out in patients underwent CEA in 3 vascular surgery centers in Tehran and 2 centers in Mashhad. Patients' selection criteria, methods of detection of carotid stenosis, method of anesthesia, surgical techniques and perioperative complications were evaluated.

RESULTS: Overall, 388 CEA in 345 patients (65% males) with mean age of 66.8 year old (ranged 46-84 years) were evaluated. Detection of carotid stenosis was made by one carotid duplex ultrasound in 90% of CEA candidates. The whole perioperative stroke death rate in reported Iranian vascular surgery centers is 6.4%. Perioperative stroke death rate in Imam Reza, Razavi, Shohaday Tajrish, Taleghani and Iranmehr hospitals was 2.4, 0, 4.8, 10.2 and 10.2 percent, respectively.

CONCLUSION: In Iran, CEA is recommended only in patients with symptomatic $\geq 70\%$ internal carotid artery stenosis and preferably in patients with symptomatic $\geq 90\%$ stenosis. Method of detection of carotid stenosis in Iranian vascular surgery centers should be corrected.

Keywords: Carotid, Endarterectomy, Iran.

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Introduction

Carotid endarterectomy (CEA) has been performed in Iran since 1991 by vascular surgeons. The benefits of CEA will not be realized if perioperative morbidity and mortality is excessive. Stroke, hyperperfusion syndrome including cerebral edema and intracerebral hemorrhage, lower cranial nerve palsy, wound hematoma, myocardial infarction, arrhythmia and death are CEA's complications.¹ The results derived from North American Symptomatic Carotid Endarterectomy Trial (NASCET)² and European Carotid Surgery Trial (ESCT)³ revealed that the patients with symptomatic internal carotid artery (ICA) stenosis should be referred to a surgical center with perioperative stroke and death less than 6%.^{2,3} If the combined perioperative stroke and death approached to 10% the benefit of CEA is negated.⁴

The Asymptomatic Carotid Artery Surgery (ACAS) trial confirmed that patients with asymptomatic carotid stenosis should only be operated by surgeons with perioperative stroke and death rate of less than 3%.⁵ Review of diagnostic method of ICA stenosis, criteria of patient selection, surgical technique and perioperative complications in Iran demonstrates significant differences than standard protocols of CEA.^{2,3,5} This retrospective observational study compares the above characteristics of CEA in various Iranian vascular surgery centers.

Materials and Methods

A retrospective study was performed by reviewing patients' demographic data, patients' selection criteria and methods of detection of carotid stenosis. Methods of anesthesia, surgical techniques and

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