Risk Factors For Stroke, Myocardial Infarction, or Death Following Carotid Endarterectomy: Results From the International Carotid Stenting Study

Objectives: Carotid endarterectomy (CEA) is standard treatment for symptomatic carotid artery stenosis but carries a risk of stroke, myocardial infarction (MI), or death. This study investigated risk factors for these procedural complications occurring within 30 days of endarterectomy in the International Carotid Stenting Study (ICSS).

Methods: Patients with recently symptomatic carotid stenosis >50% were randomly allocated to endarterectomy or stenting. Analysis is reported of patients in ICSS assigned to endarterectomy and limited to those in whom CEA was initiated. The occurrence of stroke, MI, or death within 30 days of the procedure was reported by investigators and adjudicated. Demographic and technical risk factors for these complications were analysed sequentially in a binomial regression analysis and subsequently in a multivariable model.

Results: Eight-hundred and twenty-one patients were included in the analysis. The risk of stroke, MI, or death within 30 days of CEA was 4.0%. The risk was higher in female patients (risk ratio [RR] 1.98, 95% CI 1.02-3.87, P = .05) and with increasing baseline diastolic blood pressure (dBP) (RR 1.30 per +10 mmHg, 95% CI 1.02-1.66, P = .04). Mean baseline dBP, obtained at the time of randomization in the trial, was 78 mmHg (SD 13 mmHg). In a multivariable model, only dBP remained a significant predictor. The risk was not related to the type of surgical reconstruction, anaesthetic technique, or perioperative medication regimen. Patients undergoing CEA stayed a median of 4 days before discharge, and 21.2% of events occurred on or after the day of discharge.

Conclusions: Increasing diastolic blood pressure was the only independent risk factor for stroke, MI, or death following CEA. Cautious attention to blood pressure control following symptoms attributable to carotid stenosis could reduce the risks associated with subsequent CEA.

Pharmaceutical Management of Small Abdominal Aortic Aneurysms: A Systematic Review of the Clinical Evidence

Background: Management of abdominal aortic aneurysms (AAAs) relies on surgical repair of larger AAAs. Consequently medical interventions inhibiting AAA progression could greatly reduce the need for surgical repair. A spectrum of pharmaceutical strategies has been reported, albeit conclusions often appear contradictory. Given the longstanding interest in pharmaceuticaa aortic AAA stabilization, a systematic review of the available literature is relevant.

Objectives: The aim is to provide an up to date systematic review of the available data on pharmaceutical therapies for stabilizing or impeding AAA growth.

Methods: A search using Pubmed, Embase, Web of science, Cochrane, CINAHL, Academic search Premier, and Science Direct identified 27 eligible papers that studied the clinical effect of the pharmaceutical therapy on AAA diameter growth.

Results: This review shows that there is currently no pharmaceutical strategy that reduces AAA growth. Most studies are of poor methodological quality. Initial promising reports are often not confirmed in subsequent larger studies, raising the possibility of selective reporting.

Conclusion: There is currently no pharmaceutical means that halts AAA growth.

Chimney Grafts in Aortic Stent Grafting: Hazardous or Useful Techniques? Systematic Review of Current Data

Background: The chimney graft (CG) technique was introduced to rescue accidentally covered aortic branches during aortic endovascular repair. It extends the sealing zone. There is concern about “gutter” type I endoleak (EL-I) and about the durability of CGs. The aim of the present report was to analyze the rapidly increasing existing data.

Methods: A search was performed (PRISMA criteria) for all studies of visceral and thoracic/arch chimney grafts. Technical and clinical details and outcomes were assessed.

Results: The present review includes 831 patients who underwent EVAR/TEVAR (endovascular aneurysm repair/thoracic endovascular aneurysm repair) with one or more chimney, periscope, or sandwich grafts. For aortic visceral vessels 817 patients received 911 visceral CGs and 314 patients received 364 arch CGs. Most procedures (81% visceral and 69% arch CGs) were elective. Thirty day mortality was 4% for both groups. The rate of early EL-I was 1.3% (visceral CGs) and 1.1% (arch CGs). Most EL-I were managed conservatively (observation: 70% for visceral CG and 45% for arch CG). Early CG patency was high (97%-99%) and remained high during follow up (median 17 months). Late (after 30 days) EL-I was reported in nine visceral (2%) and 12 arch (4%) CG cases. Few other late complications were reported, but those losing a kidney at the initial repair seemed to have a high risk of requiring permanent hemodialysis.

Conclusion: Increasing amounts of data support the benefit of visceral and arch chimney graft techniques. In particular, the low early mortality and complication rates and high long-term patency seem advantageous; however, the majority of case renal artery was sacrificed. The CG technique is valuable for complex urgent patients and needs further documentation for other patient groups.

Male Sex Associated with Increased Long-term Cardiovascular Mortality after Peripheral Vascular Surgery for Atherosclerosis Despite Optimal Medical Treatment

Background: The cardiovascular burden and consequences of peripheral atherosclerosis appear to differ between men and women. Data regarding long-term outcomes, including the impact of medical prophylactic treatment, are insufficient. This study examined long-term outcomes according to sex following primary vascular surgery, adjusted for multiple variables as well as recommended medical prophylaxis.

Methods: A total of 11,234 patients who underwent peripheral vascular surgery from January 2000 to December 2007 were stratified into five procedural groups: (a) aorto-iliac bypass or thromboendarterectomy, (b) femoro--femoral crossover, (c) thromboendarterectomy of the femoral arteries, (d) infrainguinal bypass, or (e) axillo-uni- and bifemoral bypass. Data were analyzed according to sex for differences in myocardial infarction, stroke, and death, individually and combined, after surgery.

Results: A total of 11,234 patients were included: 6289 males and 4945 females. The overall adjusted hazard ratio for male patients compared with female patients for death was 1.11 (95% CI 1.06-1.17), for MI was 1.16 (95% CI 1.04-1.29), for stroke was 0.99 (95% CI 0.89-1.11), and for any major adverse cardiovascular event was 1.10 (95% CI 1.05-1.16).

Conclusions: These findings show that, despite indication, severity, and concomitant medical treatment of peripheral artery disease, men have a higher risk of mortality and adverse cardiovascular events following surgery for peripheral arterial disease.