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Systematic Preoperative Coronary Angiography and Stenting Improves Postoperative Results of Carotid Endarterectomy in Patients with Asymptomatic Coronary Artery Disease: A Randomised Controlled Trial

Illuminati G., Ricco J.-B., Greco C., Mangieri E., Calio' F., Ceccanei G., Pacilè M.A., Schiariti M., Tanzilli G., Barillà F., Paravati V., Mazzesi G., Miraldi F., Tritapepe L. Eur J Vasc Endovasc Surg 2010;30:in press

Objective: To evaluate the usefulness of systematic coronary angiography followed, if needed, by coronary artery angioplasty (percutaneous coronary intervention (PCI)) on the incidence of cardiac ischaemic events after carotid endarterectomy (CEA) in patients without evidence of coronary artery disease (CAD).

Materials and methods: From January 2005 to December 2008, 426 patients, candidates for CEA, with no history of CAD and with normal cardiac ultrasound and electrocardiography (ECG), were randomised into two groups. In group A ($n = 216$) all the patients had coronary angiography performed before CEA. In group B, all the patients had CEA without previous coronary angiography. In group A, 66 patients presenting significant coronary artery lesions at angiography received PCI before CEA. They subsequently underwent surgery under aspirin (100 mg day^{-1}) and clopidogrel (75 mg day^{-1}). CEA was performed within a median delay of 4 days after PCI (range: 1–8 days).

Risk factors, indications for CEA and surgical techniques were comparable in both groups ($p > 0.05$). The primary combined endpoint of the study was the incidence of postoperative myocardial ischaemic events combined with the incidence of complications of coronary angiography. Secondary endpoints were death and stroke rates after CEA and incidence of cervical haematoma.

Results: Postoperative mortality was 0% in group A and 0.9% in group B ($p = 0.24$). One postoperative stroke (0.5%) occurred in group A, and two (0.9%) in group B ($p = 0.62$). No postoperative myocardial event was observed in group A, whereas nine ischaemic events were observed in group B, including one fatal myocardial infarction ($p = 0.01$). Binary logistic regression analysis demonstrated that preoperative coronary angiography was the only independent variable that predicted the occurrence of postoperative coronary ischaemia after CEA. The odds ratio for coronary angiography (group A) indicated that when holding all other variables constant, a patient having preoperative coronary angiography before carotid surgery was 4 times less likely to have a cardiac ischaemic event after carotid surgery. No complications related to coronary angiography were observed and no cervical haematomas occurred in patients undergoing surgery under aspirin and clopidogrel in this study.

Conclusions: Systematic preoperative coronary angiography, possibly followed by PCI, significantly reduces the incidence of postoperative myocardial events after CEA in patients without clinical evidence of CAD.

Clinical Results of Carotid Denervation by Adventitial Stripping in Carotid Sinus Syndrome

Toorop R.J., Scheltinga M.R., Huige M.C., Moll F.L. Eur J Vasc Endovasc Surg 2010;30:in press

Aims: Older patients with spells of syncope may suffer from a carotid sinus syndrome (CSS). Patients with invalidating CSS routinely receive pacemaker treatment. This study evaluated the safety and early outcome of a surgical technique termed carotid denervation by adventitial stripping for CSS treatment.

Methods: Carotid sinus massage (CSM) during cardiovascular monitoring confirmed CSS in patients with a history of repeated syncope and dizziness. The internal carotid artery was surgically denervated by adventitial stripping over a minimum distance of 3 cm via a standard open approach. Patient characteristics, perioperative complications and 30-day success rate were analyzed.

Results: A total of 39 carotid denervation procedures was performed in 27 individuals (23 males, mean age 70 ± 3 years) between 1980 and 2007 in a single institution. Eleven patients had a bilateral hypersensitive carotid sinus. Procedure related complications included wound hematoma ($n = 4$), neuropraxia of the marginal mandibular branch of the facial nerve ($n = 2$) and dysrhythmia responding to conservative treatment ($n = 3$). Significant alterations in systolic and diastolic blood pressure and heart rate were not observed. One patient developed a cerebral ischaemic vascular accident on the 24th postoperative day. One patient with residual disease had a successful redenervation within 1 month after the initial operation. Two patients with persistent symptoms received a pacemaker but also to no avail. At 30-day follow up 25 of 27 patients (93%) were free of syncope, and 24 free of a pacemaker (89%).

Conclusion: Carotid denervation by adventitial stripping of the proximal carotid internal artery is effective and safe and may offer a valid alternative for pacemaker treatment in patients with carotid sinus syndrome.

An Analysis of 50 Surgically Managed Penetrating Subclavian Artery Injuries

Sobnach S., Nicol A.J., Nathire H., Edu S., Kahn D., Navsaria P.H. Eur J Vasc Endovasc Surg 2010;30:in press

Objectives: The surgical management and outcome of penetrating subclavian artery (SCA) injuries is presented in this article.

Design: A retrospective chart review is used to detail the management and outcome of penetrating SCA injuries.

Patients and methods: Patients with penetrating SCA injuries presenting to the Groote Schuur Hospital from January 1997 to December 2007 were reviewed. Demographic data, mechanism of injury, associated injuries, angiographic findings, surgical treatment, hospital stay, complications and mortality were noted.

Results: Fifty patients with penetrating SCA injuries were identified from an operating trauma database. Stab and gunshot wounds accounted for 40 and 10 SCA injuries, respectively. The mean Revised Trauma Score (RTS) was 7.2. Angiography was obtained in 37 patients; false aneurysm (13) and total occlusion (nine) were the two most common findings. A median sternotomy was required in 25 (50%) patients and emergency room thoracotomy was performed in two patients (4%) for initial haemorrhage control. Primary repair of SCA injuries was possible in 52% of the patients. Three SCA injuries (6%) were ligated and one patient received an endovascular stent. Morbidity was restricted to associated brachial plexus injuries. The limb salvage rate was 100% and there were no deaths.

Conclusion: Preoperative angiography was useful in planning an operative approach. Primary repair was possible in the majority of the patients and ligation of SCA injuries was life-saving in critically ill patients.

Repair of Arterial Injury after Blunt Trauma in the Upper Extremity–Immediate and Long-term Outcome

Klocker J., Falkensammer J., Pellegrini L., Biebl M., Tauscher T., Fraedrich G. Eur J Vasc Endovasc Surg 2010;30:in press

Objective: In contrast to upper extremity stab and gunshot wounds, data on management and outcome in blunt trauma (BT) are limited by small numbers and short follow-up periods.

Methods: This study is a retrospective data analysis. All patients who had undergone arterial repair after upper-limb BT were included. Exclusion criteria were artery ligation and/or primary limb amputation. Endpoints included the following: peri-operative death, limb salvage, primary and secondary patency, vascular re-operation and/or intervention.

Results: Eighty-nine patients (71 male; median age: 34.6 years, range: 2.5–81.7) underwent reconstruction of 96 arteries after BT since 1989: subclavian ($n = 16$), axillary ($n = 22$), brachial ($n = 48$) and forearm ($n = 10$). Concomitant arm vein lesions were present in 15 patients (17%) and accompanying nerve ($n = 38$; 43%) and/or orthopaedic injuries ($n = 64$; 72%) in 77 patients (87%). The 30-day mortality rate was 2% with the limb-salvage rate being 98%. Six reconstructions occluded during the first week (primary/secondary patency rate: 93%/99%). After a median follow-up time of 5.1 years, 67% of the patients were followed: There were no secondary amputations and no arterial re-interventions.

Conclusions: Arterial repair in upper extremity BT has excellent early and long-term outcome. In contrast to a significant risk of early occlusion, limb loss after repair, late vascular re-intervention and late arterial occlusion or stenosis are rare.

Endovascular Repair of Thoracoabdominal Aortic Aneurysms

Haulon S., D'Elia P., O'Brien N., Sobocinski J., Perrot C., Lerussi G., Koussa M., Azzaoui R. Eur J Vasc Endovasc Surg 2010;30:in press

Objectives: To evaluate the early outcomes following thoracoabdominal aortic aneurysm (TAAA) repair utilising fenestrated and branched endografts.

Design and materials and methods: A prospective analysis of all patients undergoing endovascular repair of TAAA in a single academic centre. All patients were deemed unfit for open surgical repair. Customised endografts were designed using CT data reconstructed on 3D workstations. Post-operatively all patients were evaluated radiologically at hospital discharge, at 6, 12, 18 and 24 months, and annually thereafter.

Results: Thirty-three consecutive patients (30 males) were treated over 33 months (August 2006 to April 2009). Median age and aneurysm size were 70 years (range 50–83 years) and 64 mm (range 55–100 mm) respectively. 114/116 (98%) of the targeted visceral vessels were successfully