Article published online: 2021-04-26

Abstract

OC 1.1

Endovascular Treatment for Acute Mesenteric Ischaemia

Khalid Omar Bashaeb, Marawan El Farargy, George Antoniou

Pennine Acute Hospitals NHS Trust, Pennine Acute Hospitals NHS Trust, Manchester, United Kingdom. E-mail: kobashaeb@hotmail.com

Background: Acute mesenteric ischemia (AMI) is associated with a significant morbidity and mortality. Endovascular techniques have emerged as a viable alternative treatment option to conventional surgery. We performed a systematic review of the literature and meta-analysis of reported outcomes. **Methods:** Our review conformed to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement standards with the protocol registered in PROSPERO (CRD42016035667). We searched electronic information sources (MEDLINE, EMBASE, CINAHL, CENTRAL) and bibliographic lists of relevant articles to identify studies reporting outcomes of endovascular treatment for AMI of embolic or thrombotic aetiology. We defined 30-day or in-hospital mortality and bowel resection as the primary outcome measures. We used the Newcastle-Ottawa scale to assess the methodological quality of observational studies. We calculated combined overall effect sizes using random effects models; results are reported as the odds ratio (OR) and 95% confidence interval (CI). **Results:** We identified 19 observational studies reporting on a total of 3362 patients undergoing endovascular treatment for AMI. The pooled estimate of peri-interventional mortality was 0.245 (95% CI 0.197–0.299), that of the requirement for bowel resection 0.326 (95% CI 0.229–0.439), and the pooled estimate for acute kidney injury was 0.132 (95% CI 0.082–0.204). Eight studies reported comparative outcomes of endovascular versus surgical treatment for AMI (endovascular group, 3187 patients; surgical group, 4998 patients). Endovascular therapy was associated with a significantly lower risk of 30-day mortality (odds ratio 0.45, 95% CI 0.30–0.67, P 1⁄40.0001), bowel resection (OR 0.45, 95% CI 0.34–0.59, $P < 0.00001$) and acute renal failure (OR 0.58, 95% CI 0.49–0.68, $P < 0.00001$). No differences were identified in septic complications or the development of short bowel syndrome. **Conclusions:** Endovascular therapy confers improved outcomes compared to conventional surgery, reduced mortality, risk of bowel resection and acute renal failure. An endovascular-first approach should be considered in patients presenting with AMI.

OC 1.2 (Second place oral presentation prize winner)

Embolization of Genicular Arteries for Chronic Hemarthrosis Post Knee Prosthesis

Olivier D'archambeau, Elisa Luyckx, Thijs Van Der Zijden, Maurits Voormolen, Maurits Voormolen

University Hospital Antwerp, Antwerp, Belgium. E-mail: olivier.darchambeau@uza.be

Background: Post-operative hemarthrosis after knee prosthesis can be invalidating due to painful swelling of the knee and diminished mobility. We describe the technique and clinical results of endovascular embolisation of genicular arteries. **Methods:** From 01.2007 until 12.2016, 31 patients were treated (17 m, 14 w) with a mean age of 67 y (range 48-90). A total of 38 embolisation procedures were performed (31-1, 5-2 and 1-3), 26 right and 12 left sided. The mean time from surgery to symptoms was 24, 4 months (range 1-64) and embolisation was 27,4 months (range 1-70). Surgery type was total knee prosthesis (TKP) in 29 patients, unicondylar prosthesis in 2. The technical approach was ipsilateral in 33 procedures and contralateral in 5. All embolisations were performed using 4F diagnostic catheters, 2.7F microcatheters and microspheres (range: 100-500 μ). The technical endpoint was subtotal devascularisation in order to avoid ischemic complications. Clinical endpoint was symptomatic improvement. **Results:** Technical success was achieved 100%. In all cases, the superior lateral and medial genicular arteries could be embolised. In 12/38 procedures (32%), one or both inferior genicular arteries could not be catheterised due to the superposition of the TKP. Symptomatic improvement was achieved in 26/31 patiënts (84%). Post-procedural pain was noted in all patiënts, resolving inside 24 hrs in most. Two complications occurred, one low grade infection and one aseptic necrosis. **Conclusions:** Endovascular embolisation of genicular arteries is safe and efficient for the treatment of chronic hemarthrosis post knee prosthesis placement. Clinical improvement is seen in most patients. Complications are rare.

OC 1.3

Radiation and Contrast Reduction Strategies in Endovascular Aneurysm Repair Procedures

Khalid Omar Bashaeb, Andy Mayes

The Pennine Acute Hospitals NHS Trust, Manchester, United Kingdom. E-mail: kobashaeb@hotmail.com

Background: The aim was to maximise reduction of radiation dose and intravenous contrast use in patients undergoing Endovascular Aneurysm Repair (EVAR) using current hybrid theatre technology. **Methods:** A combined retrospective and prospective study of patients undergoing EVAR using current technologies was performed. We developed and implemented dose reduction strategies (DRS) with three study groups, a. Pre-Hybrid, b. Post-hybrid installation pre-DRS implementation and, c. Post hybrid installation with DRS implementation. The pre-hybrid group was performed using a C-arm image intensifier (OEC 9900, GE) and post hybrid installation using a Discovery IGS 740 (GE Healthcare). DRS included use of fusion imaging, fluoroscopy frame rate reduction, extra low dose protocols, digital zoom and image collimation. All standard bifurcated endografts were included. Dose Area Product (DAP), procedure time, screening time and total intravenous contrast media used for each patient was recorded. **Results:** The mean DAP pre-hybrid was 41.67 Gycm2, which increased to 63.24 Gycm2 post-hybrid installation. This reduced to 36.57 Gycm2 after DRS implementation (43% reduction) despite an 8% increase in screening time in the post-DRS group (1218 secs vs 1118 secs). The contrast volume reduced from a mean of 80 ml of higher strength Niopam370 (Bracco, UK) intravenous contrast media pre-hybrid to 70.35 ml of lower strength Niopam300 (Bracco, UK) post-hybrid pre-DRS and to 54.19 ml after DRS implementation,