

Mechanical thrombectomy

Stroke and its sequelae can have devastating consequences. There are direct physical, psychosocial and financial impacts but also implications for the wider health care system, with the estimated cost of stroke to NHS England of £3 billion per year.¹ The disease remains the second highest cause of death worldwide and with an increasingly co-morbid and ageing population is only set to become more pertinent.²

Endovascular thrombectomy, a technique used at the core of interventional radiology practice, has been successfully applied to a range of thromboembolic scenarios. Mechanical thrombectomy is a minimally invasive process whereby a catheter is inserted into an artery and advanced into the neck until the causative blockage can be identified and removed using a clot retrieval/aspiration device under x-ray guidance.³

Its application for ischaemic stroke was once considered a relatively novel approach. The use of early clot retrieval devices combined with poor patient selection led to a number of early trials failing to demonstrate a significant benefit to patients.⁴ However, enthusiasm was reignited in 2015 after several landmark meta-analysis studies offered evidence-based confidence such that mechanical thrombectomy is now recognized as the gold standard for acute ischaemic stroke secondary to large vessel occlusion.⁵ Several advantages over traditional intravenous thrombolysis therapy have been identified, such as its greater efficacy, wider treatment window and the possibility to treat those otherwise contraindicated.⁶ Practically, the process is quick, typically taking less than an hour with unequivocal cost-effectiveness versus the financial burden of the complex rehabilitation of patients who fall out with treatment criteria.

So, what impact have these positive findings had upon current practices within IR? It is acknowledged that the UK is behind other European countries with regards to provision of endovascular treatment. In 2016 the UK carried out only 478 thrombectomies, somewhat short of our colleagues in Germany and France who carried out 9000 and 4589 procedures respectively.⁷

There are many barriers to a streamlined 24/7 thrombectomy service in the UK, including geographical, financial, staffing and training constraints, but things are changing. Clinical Commissioning Groups have now granted approval to fund the service.⁶ The British Society of Neuroradiologists have been working in collaboration with the RCR and BSIR to produce training guidance for mechanical thrombectomy, acknowledging that the current number of trained neuro-interventionalists would need to double in order to facilitate a full time service.⁸ A multifaceted approach involves recruiting more interventional radiologists, whilst mitigating the associated lag time to competence, by training current consultants in invested fields such as stroke physicians, neurologists and cardiologists in the art of stroke thrombectomy.

Given the evidence in favour of thrombectomy I envisage the faculty of IR at the heart of a future integrated, diagnostic and therapeutic acute stroke service in the UK. One that is comparable to the current Primary PCI cardiology service, targeting close to 100% access to emergency treatment for all patients irrespective of location.⁹ Thereby eliminating the existing stroke roulette, aspiring to life saving intervention, meeting the needs of all, and free at the point of delivery.

(Word count – 499)

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