NICE guidance

Middle meningeal artery embolisation for chronic subdural haematomas

Interventional procedures guidance
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www.nice.org.uk/guidance/ipg779

Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account, and specifically any special arrangements relating to the introduction of new interventional procedures. The guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful

discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties. Providers should ensure that governance structures are in place to review, authorise and monitor the introduction of new devices and procedures.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

1 Recommendations

1.1 Middle meningeal artery embolisation for chronic subdural haematomas should be used only in research. Find out what only in research means on the NICE interventional procedures guidance page.

1.2 Further research could be analysis of registry data with long-term outcomes, randomised controlled trials or other suitably designed studies. It should report details of patient selection, technique used, rebleeding, functional outcomes, need for reintervention and length of hospital stay.

Why the committee made these recommendations

The evidence was limited in quantity and quality. It included a large number of people with chronic subdural haematomas, but only a small number had this procedure. And the procedure was used at different treatment stages and with different aims, including being used alone or with surgery. So, it is uncertain which people may benefit from the procedure.

There are no safety concerns from the evidence, although the procedure can have complications. Overall, there is uncertainty about the efficacy of the procedure. So, it should be used only in research.

2 The condition, current treatments and procedure

The condition

2.1 Chronic subdural haematoma is characterised by a pathological collection of blood in the subdural space, and usually has an insidious onset and progression. It may begin forming several days or weeks after bleeding initially starts. Bleeding is usually caused by a head injury, which may be minor in nature.

Current treatments

2.2 People who are asymptomatic or have minor symptoms with smaller haematomas are usually offered conservative treatment with careful monitoring and medical management. In contrast, people who have more severe symptoms and larger haematomas, and who have acceptable surgical risks, are generally offered burr hole surgery or a craniotomy.

The procedure

2.3 This procedure is done using general or local anaesthesia, under fluoroscopic guidance. A catheter is inserted into the common femoral or radial artery, and a microcatheter is then guided into the middle meningeal artery (MMA). Angiography is used to select MMA branches for embolisation and to detect collateral vessels.

2.4 If there are no significant collateral vessels, target branches are embolised. If there are significant collateral vessels, MMA embolisation may not be offered. If the procedure is offered, the collateral vessels are either occluded using coils before embolisation, or the microcatheter is advanced more distally to avoid them. Once there is no flow in the MMA target branches on angiography, the catheters are removed.

2.5 This procedure aims to eliminate the blood supply from the MMA to the membrane around the haematoma, to allow the eventual spontaneous resolution of the haematoma and to reduce the risk of recurrence.

3 Committee considerations

The evidence

3.1 NICE did a rapid review of the published literature on the efficacy and safety of this procedure. This comprised a comprehensive literature search and detailed review of the evidence from 9 sources, which was discussed by the committee. The evidence included 4 systematic reviews and meta-analyses, 3 cohort studies, 2 case series and 2 case reports. It is presented in the summary of key evidence section in the interventional procedures overview. Other relevant literature is in the appendix of the overview.

3.2 The professional experts and the committee considered the key efficacy outcomes to be: haematoma resolution, reduction in haematoma recurrence, functional outcomes, need for further intervention and length of hospital stay.

3.3 The professional experts and the committee considered the key safety outcomes to be: bleeding, stroke, damage to structures supplied by the external carotid artery, and complications of the device used.

3.4 Patient commentary was sought but none was received.

Committee comments

3.5 This procedure is not currently a treatment for subdural haematoma with mass effect, but it might have a role in preventing recurrence or progression of haematomas.

3.6 The committee was informed that this procedure might have a role for people

who need to continue taking anticoagulant medication and antiplatelet agents. People on anticoagulants might be at higher risk of chronic subdural haematoma.

3.7 There is a variety of techniques and embolisation agents, but it is uncertain which is most effective.

3.8 The evidence included some people who had an asymptomatic chronic subdural haematoma. The committee was informed that in the UK, these people are not normally considered to need any intervention.

3.9 There is ongoing research and the guidance will be considered for review when new evidence is published.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.

Accreditation