NICE guidance

Percutaneous venoplasty for chronic cerebrospinal venous insufficiency in multiple sclerosis

Interventional procedures guidance
Published: 30 January 2019

www.nice.org.uk/guidance/ipg640

This guidance replaces IPG420.

1 Recommendations

1.1 Current evidence on percutaneous venoplasty for chronic cerebrospinal venous insufficiency in multiple sclerosis shows that there are serious complications and that it provides no benefit. Therefore, this procedure should not be used in the management of multiple sclerosis.

2 The condition, current treatments and procedure

The condition

2.1 Multiple sclerosis is a disease of the central nervous system, which usually starts in early adult life. It is characterised by neurological symptoms caused by episodes of inflammation and scarring in the white matter of the brain or spinal cord. It causes a range of symptoms including problems with vision, arm or leg movement, sensation or balance. Muscle spasms, pain, fatigue, and emotional problems or depression may also occur. Symptoms may vary over time and some people become profoundly disabled. The 3 most common types of multiple sclerosis are: relapsing–remitting, in which periods of good health or remission are followed by sudden onset of symptoms or relapses; secondary progressive, in which symptoms gradually worsen with fewer remissions; and primary progressive, which involves a gradual, continuous worsening of symptoms.

Current treatments

2.2 Current treatment for multiple sclerosis includes specialist neurological rehabilitation, and medication aimed at symptom control and preventing disease progression (see NICE's guideline on multiple sclerosis in adults).

The procedure

2.3 The aim of percutaneous venoplasty for chronic cerebrospinal venous insufficiency is to relieve multiple sclerosis symptoms by improving cerebrospinal venous drainage. However, the full mechanism of action is not currently understood.

2.4 Percutaneous needle puncture of the femoral vein is done under local anaesthesia and a vascular sheath inserted using a standard needle, guidewire and catheter technique. The guidewire is advanced into the

superior vena cava under fluoroscopic control. Selective venography of veins, including but not limited to the internal jugular and azygos, is used to identify any abnormal luminal narrowing and collateral circuits. Intravascular ultrasound may also be used. Abnormally narrowed segments are dilated with a standard angioplasty balloon. Sometimes a stent is left in place after the angioplasty. Further venography or ultrasound, or both, are used to assess the outcome of the intervention before the guidewire and sheath are removed.

3 Committee considerations

The evidence

3.1 To inform the committee, 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 8 sources, which was discussed by the committee. The evidence included 1 systematic review, 2 randomised controlled trials (1 of which also reported a case series), 3 further case series (1 of which was also in the systematic review), 1 non-randomised comparative study and 1 registry report. It is presented in table 2 of the interventional procedures overview. Other relevant literature is in the appendix of the overview.

3.2 The specialist advisers and the committee considered the key efficacy outcomes to be: quality of life, relapse rates, and measures of disability and disease progression.

3.3 The specialist advisers and the committee considered the key safety outcomes to be: vascular rupture or dissection, venous thrombosis or occlusion, neurological damage including stroke, cardiac arrhythmia and stent fracture (if a stent is inserted after venoplasty).

3.4 Submissions were received from 2 patient organisations, which were discussed by the committee.

ISBN: 978-1-4731-3238-2

Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.

Accreditation