NICE guidance

# Stent placement for vena caval obstruction

Interventional procedures guidance
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www.nice.org.uk/guidance/ipg79

## 1 Guidance

1.1 Current evidence on the safety and efficacy of stent placement for vena caval obstruction appears adequate to support the use of this procedure, provided that the normal arrangements are in place for consent, audit and clinical governance.

## 2 The procedure

### 2.1 Indications

2.1.1 Vena caval obstruction is narrowing or occlusion of the caval veins (the inferior vena cava or the superior vena cava), which return blood from the body to the heart. It is most commonly caused by cancer, especially lung cancer. Patients with malignant vena caval obstruction are very ill and have a short life expectancy.

2.1.2 Standard treatments for malignant caval obstruction include radiotherapy and chemotherapy. These can cause severe adverse events and response to treatment may take several weeks. Stent placement can replace or supplement these treatments.

## 2.2 Outline of the procedure

2.2.1 Stent placement for vena caval obstruction is a minimally invasive procedure that involves inserting a catheter into a large vein, usually in the groin, and passing it into the narrowed area under radiological guidance. A stent, which may be self-expanding or balloon-dilated, is then positioned across the narrowed area to relieve the obstruction.

## 2.3 Efficacy

2.3.1 A systematic review on the treatment of superior vena caval obstruction in lung cancer identified 23 non-randomised studies (159 patients) examining the use of stents. The review reported 95% (151/159) relief from obstruction and although recurrence occurred in 11% (17/159) of patients during follow-up (up to 8 months), long-term patency was achieved in 92% (146/159). This compared with a complete relief rate of 77% (377/487) for patients treated with any combination of chemotherapy and/or radiotherapy. Median survival ranged from 1.5 to 6.5 months in the 13 studies that reported survival outcomes. For more details, refer to the Sources of evidence section.

2.3.2 The evidence showed that the response to treatment was more rapid for patients receiving stents than for patients receiving radiotherapy or chemotherapy. One study with historical controls reported relief of obstruction immediately or within 48 hours in patients receiving stents, compared with no change before 2 weeks in patients receiving radiotherapy. For more details, refer to the Sources of evidence section.

2.3.3 The Specialist Advisors considered stenting to be highly effective. The only concern they raised was the possible inappropriate use of stents in some young patients with a mediastinal mass on chest X-ray that may disappear quickly with chemotherapy.

## 2.4 Safety

2.4.1 Few adverse events were reported. In the largest study reporting complications: 3% (2/76 patients) had misplaced stents; 1% (1/76) required anticoagulation; 1% (1/76) experienced transient chest pain; and 1% (1/76) required blood transfusion. Adverse events in another study included stent obstruction, 12% (6/52), and stent migration, 2% (1/52). For more details, refer to the Sources of evidence section.

2.4.2 The Specialist Advisors had few concerns about the safety of this procedure. They considered the main potential adverse events to be perforation or rupture of the vena cava, migration of the stent, and embolisation.

## 2.5 Other comments

2.5.1 Most evidence relates to superior vena caval obstruction in adults with carcinoma of the lung.

2.5.2 It was noted that there was less evidence in children, and that the procedure would normally be undertaken in specialist paediatric cardiology units.

Andrew Dillon
Chief Executive
July 2004

# 3 Further information

## Sources of evidence

The evidence considered by the Interventional Procedures Advisory Committee is described in the following document.

'Interventional procedure overview of stent placement for vena caval obstruction', April 2003.

# Information for patients

NICE has produced information on this procedure for patients and carers ('Understanding NICE guidance'). It explains the nature of the procedure and the guidance issued by NICE, and has been written with patient consent in mind.

# 4 About this guidance

NICE interventional procedure guidance makes recommendations on the safety and efficacy of the procedure. It does not cover whether or not the NHS should fund a procedure. Funding decisions are taken by local NHS bodies after considering the clinical effectiveness of the procedure and whether it represents value for money for the NHS. It is for healthcare professionals and people using the NHS in England, Wales, Scotland and Northern Ireland, and is endorsed by Healthcare Improvement Scotland for implementation by NHSScotland.

This guidance was developed using the NICE interventional procedure guidance process.

We have produced a summary of this guidance for patients and carers. Information about the evidence it is based on is also available.

**Changes since publication**

26 January 2012: minor maintenance.

**Your responsibility**

This guidance represents the views of NICE and was arrived at after careful consideration of the available evidence. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. This guidance does not, however, override the individual responsibility of healthcare professionals to make appropriate decisions in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful

discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way which would be inconsistent with compliance with those duties.

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# Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.