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Photodynamic therapy for localised inoperable endobronchial cancer

Understanding NICE guidance –
information for people considering
the procedure, and for the public



Ordering information

You can download the following documents from www.nice.org.uk/IPG137

- this booklet
- the full guidance on this procedure.

For printed copies of the full guidance or information for the public, phone the NHS Response Line on 0870 1555 455 and quote:

- N0921 (full guidance)
- N0922 (information for the public).

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About this information

The National Institute for Health and Clinical Excellence (NICE) is the independent organisation responsible for providing national guidance on the promotion of good health and the prevention and treatment of ill health. One of NICE's roles is to produce guidance (recommendations) on whether interventional procedures are safe enough and work well enough to be used routinely in the NHS in England, Wales and Scotland.

This information describes the guidance that NICE has issued on a procedure called photodynamic therapy for localised inoperable endobronchial cancer. It is not a complete description of what is involved in the procedure – the patient's healthcare team should describe it in detail.

NICE has looked at whether photodynamic therapy is safe enough and works well enough for it to be used routinely for localised inoperable endobronchial cancer.

To produce this guidance, NICE has:

- looked at the results of studies on the safety of photodynamic therapy and how well it works
- asked experts for their opinions
- asked the views of the organisations that speak for the healthcare professionals and the patients and carers who will be affected by this guidance.

This guidance is part of NICE's work on 'interventional procedures' (see 'Further information' on page 10).

About the procedure

Localised endobronchial lung cancer is non-small-cell lung cancer that hasn't spread to the lymph nodes or glands. Photodynamic therapy (PDT for short) has been looked at by NICE as a possible treatment option for people who can't have surgery to remove the cancer. This may be because they have cancer in both lungs, they've had part of the lung removed previously, they have other lung disease that affects their breathing or there are other reasons why surgery is unsuitable.

Patients with this type of lung cancer may have symptoms as a result of the cancer blocking the airways. The aim of PDT is to reduce the size of the cancer so that some of the airways can work again.

PDT uses light from a laser and a light-sensitive liquid (called a photosensitising agent) to destroy cancer cells. The light-sensitive liquid is injected into the patient's vein. The liquid gets distributed around the body and some goes into the cancer. Light is then directed at the cancer through a bronchoscope, which is a narrow tube designed to be put down into the airways. The light changes the light-sensitive liquid into a form that can destroy tissue. After each treatment, the cancer tissue destroyed has to be removed from the lung. This is usually done 48 hours after treatment.

Other treatment options may include using laser energy to destroy the cancer (this is called laser ablation), implanting radioactive pellets into the lung to give off radiation to destroy the surrounding cancer (called endobronchial brachytherapy), and radiation directed at the cancer from outside the body (called external-beam radiotherapy).

How well the procedure works

What the studies said

No studies have compared PDT with other treatments for people with localised endobronchial lung cancer. In studies that have been carried out on people who've had PDT, the numbers of people who went into complete remission following PDT ranged from 16 out of 26 patients in one study (which is the same as 62%), to 50 out of 59 patients (85%) in another study. There was some evidence that the procedure worked better for cancers with a smaller surface area than for larger ones.

In studies that reported how many patients were alive 5 years after having the treatment, just under half (43%) of a group of 32 patients whose lungs or hearts weren't working properly were still alive. Nearly three quarters of another group of 21 patients who were fit enough for surgery were still alive 5 years after the PDT.

In other studies, patients said that their quality of life improved after PDT, and there was an improvement in airway blockage.

What the experts said

The experts said that there was no information on how the long-term effects of having PDT compared with the long-term effects of having other treatments.

Risks and possible problems with the procedure

What the studies said

Mild to moderate problems with sensitivity to light happened to some patients in most studies. A small number of patients had serious problems connected with this.

In one study, 3 out of 38 patients who had had PDT experienced symptoms of coughing up blood, and died within a month of having the PDT. In two studies, a small number of patients had to go on to a ventilator because of breathing problems (this was the case for 2 out of 38 patients in one study and 1 out of 24 patients in another). These problems may have been caused by the person's lung existing condition and weren't necessarily linked to the PDT.

Some patients in studies had mild to moderate lung or breathing problems after having PDT, such as coughing up phlegm.

What the experts said

The experts said that light sensitivity was the main problem following PDT. Other possible problems were damage to the lung tissue, which could cause bleeding. Another possible problem was that a fistula could form. A fistula is an abnormal connection between two parts of the body that wouldn't normally be connected, such as the oesophagus (which is the tube that takes food down to the stomach) and an airway.

What has NICE decided?

NICE has considered the evidence on PDT. It has recommended that when doctors use this procedure for people with localised inoperable endobronchial cancer, they should be sure that:

- the patient understands what is involved and the aim of the treatment, especially when the procedure is being used to help with symptoms rather than as a possible cure
- the patient understands the alternative treatment options
- the patient agrees (consents) to the treatment, and
- the results of the procedure are monitored.

Other comments from NICE

There are different laser systems available and different settings can be used. Some systems and settings may be more safe and may work better than others.

The person may have other treatments as well as PDT.

The groups of people in the studies were so different that it was difficult to compare the study results and come to helpful conclusions.

What the decision means for you

Your doctor may have offered you photodynamic therapy or PDT. NICE has considered this procedure because it is relatively new. NICE has decided that the procedure is safe enough and works well enough for use in the NHS. Nonetheless, you should understand the benefits and risks of PDT before you agree to it. Your doctor should discuss the benefits and risks with you and explain the aim of doing the procedure. He or she should also describe the benefits and risks of the alternative treatment options. Some of the benefits and risks of PDT may be described above.

Further information

You have the right to be fully informed and to share in decision-making about the treatment you receive. You may want to discuss this guidance with the doctors and nurses looking after you.

The NICE website (www.nice.org.uk) has further information about NICE, the Interventional Procedures Programme and the full guidance on photodynamic therapy for localised inoperable endobronchial cancer that has been issued to the NHS. The evidence that NICE considered in developing this guidance is also available from the NICE website.

NICE has issued guidance on the diagnosis and treatment of lung cancer (www.nice.org.uk/CG024publicinfo). NICE has also issued interventional procedures guidance on the use of photodynamic therapy for advanced bronchial cancer (www.nice.org.uk/IPG087publicinfo) and cryotherapy for malignant endobronchial obstruction (www.nice.org.uk/IPG142publicinfo).

If you have access to the internet, you can find more information on lung cancer on the NHS Direct website (www.nhsdirect.nhs.uk).

You can also phone NHS Direct on 0845 46 47.

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