Issue date August 2011

Understanding NICE guidance

Information for people who use NHS services

National Institute for Health and Clinical Excellence

Treating kidney cancer by using freezing (cryotherapy) needles placed using a laparoscope

NICE 'HealthTech guidance' advises the NHS on when and how new procedures can be used in clinical practice.

This leaflet is about when and how freezing needles placed using a laparoscope (a procedure called laparoscopic cryotherapy) can be used in the NHS to treat people with kidney cancer. It explains guidance (advice) from NICE (the National Institute for Health and Clinical Excellence).

This HealthTech guidance makes recommendations on the safety of a procedure and how well it works. An interventional procedure is a test, treatment or surgery that involves a cut or puncture of the skin, or an endoscope to look inside the body, or energy sources such as X-rays, heat or ultrasound. The guidance does not cover whether or not the NHS should fund a procedure. Decisions about funding are taken by local NHS bodies (primary care trusts and hospital trusts) after considering how well the procedure works and whether it represents value for money for the NHS.

This leaflet is written to help people who have been offered this procedure to decide whether to agree (consent) to it or not. It does not describe renal cancer or the procedure in detail – a member of your healthcare team should also give you full information and advice about these. The leaflet includes some questions you may want to ask your doctor to help you reach a decision. Some sources of further information and support are on the back page.

What has NICE said?

This procedure can be offered routinely as a treatment option for people with kidney cancer provided that doctors are sure that:

- the patient understands what is involved and agrees to the treatment, and
- the results of the procedure are monitored.

NICE says that a healthcare team specialising in the treatment of cancer of the urinary system should decide which patients should be offered this procedure. In addition, NICE has encouraged doctors to collect information about the procedure, and how well it works in the long-term compared with other treatments for kidney cancer.

Other comments from NICE

The evidence included both malignant and benign tumours or lesions because no tissue was normally taken for biopsy before the procedure. This contrasts with treatment by removing all or part of the kidney, where tissue is available to confirm cancer diagnosis.

Treating kidney cancer by using freezing (cryotherapy) needles placed using a laparoscope

This procedure may not be the only possible treatment for kidney cancer. Your healthcare team should talk to you about whether it is suitable for you and about any other treatment options available.

The medical name for this procedure is 'laparoscopic cryotherapy for renal cancer'. The procedure is not described in detail here – please talk to your specialist for a full description.

The most common type of kidney cancer in adults is called 'renal cell carcinoma'. This is the medical term for a type of cancer that starts in cells lining the very small tubes of the kidney that help to make urine.

Symptoms and signs of this disease include pain and blood in the urine. Sometimes, a lesion or tumour may be found during a scan or X-ray. In many cases, it is difficult to confirm whether a lesion or tumour is cancerous or benign, and whether it will grow and spread.

Treatments for kidney cancer include laparoscopic (keyhole surgery using a thin telescope and camera system) or open surgery to remove all or part of the kidney, or using radiotherapy or other techniques such as radiofrequency ablation (RFA) that use energy sources to destroy the cancer cells.

Laparoscopic cryotherapy is usually carried out with the patient under general anaesthesia. A laparoscope is used to find the tumour, and a biopsy of the tumour may be carried out. One or more cryotherapy needles are then inserted through the laparoscope into the tumour. The tip of the probe is cooled to below freezing, which creates an ice ball within the surrounding tissue that aims to destroy the tumour cells. The needle is thawed and removed. More than one freeze–thaw cycle may be needed.

What does this mean for me?

NICE has said that this procedure is safe enough and works well enough for use in the NHS. If your doctor thinks this procedure is a suitable treatment option for you, he or she should still make sure you understand the benefits and risks before asking you to agree to it.

You may want to ask the questions below

- What does the procedure involve?
- What are the benefits I might get?
- How good are my chances of getting those benefits? Could having the procedure make me feel worse?
- Are there alternative procedures?
- What are the risks of the procedure?
- Are the risks minor or serious? How likely are they to happen?
- What care will I need after the operation?
- What happens if something goes wrong?
- What may happen if I don't have the procedure?

Summary of possible benefits and risks

You might decide to have this procedure, to have a different procedure, or not to have a procedure at all.

Some of the benefits and risks seen in the studies considered by NICE are briefly described here. NICE looked at 10 studies on this procedure.

How well does the procedure work?

In a study of 101 patients, 32 of 36 patients who had laparoscopic cryotherapy were alive 2 years later, compared with all 36 patients who had laparoscopic surgery to remove part of the kidney and 24 of 29 patients who had RFA.

In a large study of several smaller studies, 8 out of 600 patients treated by laparoscopic cryotherapy needed repeat procedures compared with 66 of 775 patients treated by RFA. Remaining tumour cells were found after treatment in 31 of 600 patients in the cryotherapy group and 100 of 775 patients in the RFA group at an average of 19 months after treatment.

In a study of 264 patients, 125 of 139 patients treated with cryotherapy and 62 of 73 patients treated with RFA were successfully treated as measured by radiography 6 months after treatment.

In the study of 93 patients, those who had laparoscopic cryotherapy went back to work within 18 days, those who had percutaneous cryotherapy (no laparoscope to place the probes) went back within 6 days, and those who had RFA went back within 4 days.

As well as looking at these studies, NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that measures of success were how well the procedure worked as judged by radiology, the proportion of patients who need further treatment, the tumour returning, and survival.

Risks and possible problems

Bleeding complications needing a blood transfusion were reported in 14 of 199 patients (4 studies) treated by laparoscopic cryotherapy, and 2 of 18 patients (1 study) treated by keyhole cryotherapy.

In a study of 66 patients, treatment was changed to open surgery because of problems during the procedure in 1 of 29 patients treated by laparoscopic cryotherapy, 1 of 20 patients who had laparoscopic surgery to remove all of the kidney and 1 of 17 patients who had laparoscopic surgery to remove part of the kidney.

In the study of 101 patients, the lining of the lungs was damaged in 1 of the 36 patients treated by laparoscopic cryotherapy. Other problems included leaking urine, collection of blood in the chest cavity and collapsed lung tissue (1 patient each).

One patient with a single kidney and chronic renal failure had a blood clot in the kidney which caused obstruction and failure to produce urine. This was treated successfully with a temporary stent. Another patient with a single kidney had pain and fever caused by dead tissue blocking part of the urinary system, 3 months after the procedure, which needed further treatment.

As well as looking at these studies, NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that rare potential problems include injury to the ureter, bowel or pancreas. In theory, the risks of laparoscopic surgery could cause other problems.

More information about kidney cancer

NHS Choices (www.nhs.uk) may be a good place to find out more. Your local patient advice and liaison service (usually known as PALS) may also be able to give you further information and support. For details of all NICE guidance on kidney cancer, visit our website at www.nice.org.uk

About NICE

NICE produces guidance (advice) for the NHS about preventing, diagnosing and treating different medical conditions. The guidance is written by independent experts including healthcare professionals and people representing patients and carers. They consider how well an interventional procedure works and how safe it is, and ask the opinions of expert advisers. HealthTech guidance applies to the whole of the NHS in England, Wales, Scotland and Northern Ireland. Staff working in the NHS are expected to follow this guidance.

To find out more about NICE, its work and how it reaches decisions, see www.nice.org.uk/aboutguidance

This leaflet is about 'laparoscopic cryotherapy for renal cancer'. This leaflet and the full guidance aimed at healthcare professionals are available at www.nice.org.uk/guidance/HTG271

You can order printed copies of this leaflet from NICE publications (phone 0845 003 7783 or email publications@nice.org.uk and quote reference N2639). The NICE website has a screen reader service called Browsealoud, which allows you to listen to our guidance. Click on the Browsealoud logo on the NICE website to use this service.

We encourage voluntary organisations, NHS organisations and clinicians to use text from this booklet in their own information about this procedure.

National Institute for Health and Clinical Excellence
MidCity Place, 71 High Holborn, London, WC1V 6NA; www.nice.org.uk

ISBN 978-1-4731-8452-7
N2639 1P Aug 11