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Potassium-titanyl-phosphate (KTP) laser vaporisation of the prostate for benign prostatic obstruction

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/IPG120

- 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:

- N0752 (full guidance)
- N0753 (information for the public)

National Institute for Health and Clinical Excellence

MidCity Place
71 High Holborn
London
WC1V 6NA

www.nice.org.uk

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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 the use of medicines, medical equipment, diagnostic tests and clinical and surgical procedures within the NHS in England and Wales.

This information describes the guidance that NICE has issued on a procedure called potassium-titanyl-phosphate (usually shortened to KTP) laser vaporisation of the prostate for benign prostatic obstruction. 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 KTP laser vaporisation is safe enough and works well enough for it to be used routinely for the treatment of benign prostatic obstruction.

To produce this guidance, NICE has:

- looked at the results of studies on the safety of KTP laser vaporisation of the prostate 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 7).

About KTP laser vaporisation for benign prostatic obstruction

The prostate gland lies just under a man's bladder. The urethra, which is the tube that carries urine from the bladder to the tip of the penis, runs through the prostate gland. Benign prostatic obstruction, which is often shortened to BPO, happens when the prostate gland gets bigger and

starts to squeeze the urethra. This can cause problems with passing urine (for example, a man with BPO might find it difficult to urinate as the bladder has to work harder to squeeze the urine through the urethra past the blockage caused by the enlarged prostate).

In KTP laser vaporisation, laser energy is used to remove some of the excess prostate tissue. The aim is to relieve the pressure on the urethra so that urine can pass freely again during urination. For the procedure, the patient has an anaesthetic in his spine. The surgical laser equipment is passed into the area through a narrow tube (called a cystoscope) that is inserted into the man's urethra. Pulses of laser energy are then directed at the prostate to destroy some of the excess tissue. A catheter for urine may be left in place temporarily after the procedure.

The standard treatments for BPO are medicines and surgery. The usual operation is a transurethral resection of the prostate (TURP for short), which involves cutting away some of the prostate.

How well the procedure works

What the studies said

Two studies looked at the results of KTP laser vaporisation in relatively small numbers of men. In these studies, men's problems with urination were given a score according to a standard scoring system. By comparing the men's scores before the procedure and 1 year after it, the studies were able to say that, in general, there was a big improvement in the men's urination problems following the procedure (there was an average improvement in score of 82% in one study and 89% in the second study). The studies also measured the flow rate of urine before and after the procedure, and found that the urine flowed more easily after the laser vaporisation.

Another study assessed the quality of life of 139 men with BPO before and after the laser procedure. It found that men had a significantly better quality of life following the procedure (ongoing problems with urination would be expected to reduce a person's quality of life).

What the experts said

The experts said that training was important for this procedure – the procedure might not be so effective if done by an inexperienced doctor, and the man might have to have more surgery to remove more of the prostate.

Risks and possible problems with the procedure

What the studies said

In the studies, the most common problems after KTP laser vaporisation were difficulty or pain when passing urine (this is called dysuria) and blood in the urine (this is called haematuria). Dysuria happened in 4 out of 55 men in one study (that is, 7% of the men) and 6 out of 22 men in another study (27% of the men). Haematuria happened in 2 out of 55 men in one study (4% of the men) and 1 out of 10 men in another study (10%).

Other, less common, problems included:

- abnormal ejaculation (sometimes called retrograde ejaculation, where semen flows back into the body rather than out of the tip of the penis)
- a problem involving the bladder called soft bladder-neck contracture
- urine infection
- a type of urine incontinence called urge incontinence, where a person has an urgent need to go to the toilet but passes urine before managing to get there.

What the experts said

The experts said that the following problems were possible after the procedure: pain, an inability to pass all the urine in the bladder, abnormal ejaculation, incontinence and infection. They said that for a short time after the procedure most men were likely to have some problems urinating.

What has NICE decided?

NICE has considered the evidence on KTP laser vaporisation of the prostate. It has recommended that when doctors use it for people with benign prostatic obstruction, they should be sure that:

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

NICE has noted that there is not much information about how long the benefits of KTP laser vaporisation last. It has also said that doctors should have specific training to do KTP laser vaporisation if they want to offer it to patients. The British Association of Urological Surgeons is going to produce standards for this training.

What the decision means for you

Your doctor may have offered you KTP laser vaporisation for benign prostatic obstruction. 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 KTP laser vaporisation before you agree to it. Your doctor should discuss the benefits and risks with you. Some of these 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 KTP laser vaporisation that has been issued to the NHS. The evidence that NICE considered in developing this guidance is also available from the NICE website.

If you have access to the internet, you can find more information on prostate problems on the NHS Direct website (www.nhsdirect.nhs.uk). You can also phone NHS Direct on 0845 46 47.

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