University College Hospital at Westmoreland Street

Intravesical treatment using BCG immunotherapy

Patient Information

Urology Directorate
If you need a large print, audio, braille, easy read or translated copy of this document, please contact us on 020 3456 7890 ext 79280. We will try our best to meet your needs.

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Introduction

This booklet will give you an overview of BCG immunotherapy, how it is given and side effects it may cause. Please read it carefully as it contains information that will help you to minimise any possible problems the treatment may cause. If you have any concerns or would like further information please do not hesitate to contact one of the urology team on the numbers at the back of this leaflet.

What does intravesical treatment mean?

This involves putting medicine directly into the bladder to treat a condition. This medicine is called BCG (Bacillus Calmette-Guérin). You may have heard of BCG. This is the vaccine that is given to stop a person from contracting tuberculosis. In this case, it is used as immunotherapy to slow down or stop a cancerous bladder tumour from growing inside the bladder.

What is a cancerous bladder tumour?

A tumour is an abnormal growth of the body’s tissue cells and can be classified as benign (not cancer) or malignant (cancer). Benign tumours do not invade healthy tissue or spread around the body, they are not cancers. Malignant tumours have the ability to invade healthy tissue and to spread to other areas of the body.

The bladder is a hollow, muscular, balloon-like organ. It is in your lower pelvis and connected to your kidneys by two tubes called ureters. Urine passes down these tubes and is collected and stored in the bladder. Urine is passed out of the bladder through a tube like structure called the urethra.

In women this is a short tube which opens up in front of the vagina while in men it is much longer and passes through the prostate and penis.

The bladder is lined with a urine proof membrane called the urothelium which is made up of cells called transitional cells.
Most cancers in the bladder start in this membrane layer and are called transitional bladder cancers. Other, rarer, types of bladder cancer are squamous cell cancer and adenocarcinoma. Squamous cell cancer starts from one of the types of cell in the bladder lining. Adenocarcinoma starts from glandular cells which produce mucus.

Some bladder cancers form warty outgrowths or mushroom-like growths on the inside lining of the bladder. These are called papillary cancers. They have a short stem attached to the lining of the bladder. Sometimes they go on to spread into the wall of the bladder.

If a bladder cancer only affects the inner lining of the bladder, it is known as a superficial cancer. If it has spread into the muscle wall of the bladder, it is called an invasive cancer.

Bladder cancer occurs most commonly in people between 50 and 70 years of age. It is the fourth most common cancer in men and eighth most common in women in the UK. You may also hear your cancer referred to as a neoplasm, growth, polyp or wart. If you are confused please feel free to ask a nurse or doctor to explain things to you.
How can intravesical BCG treatment help?

Your Consultant Urologist has referred you for treatment of your superficial bladder cancer with BCG. Superficial bladder cancer affects the inner surface of the bladder only but has the ability to progress to more invasive disease. The aim of the treatment is to reduce the tendency for new tumours to develop in the future by instilling the BCG into the bladder.

BCG is a commonly-used vaccine against tuberculosis (TB) and contains bacteria from the same family as TB bacteria which have been altered to reduce the risk of infection whilst retaining the ability to stimulate the immune system sufficiently for its beneficial effect.

It is not fully understood how BCG works but in general terms is believed that the treatment causes inflammation within your bladder which, in turn, activates your immune system to destroy cancer cells. The treatment is given directly into your bladder so it can coat the entire bladder lining and provide the maximum benefit.

Like all powerful treatments, it comes with some possible side-effects (see below) and the risk of these should be considered against the risk of the bladder cancer for which the treatment is being given.

What are the potential side effects of the treatment?

While some side-effects can be unpleasant with BCG treatment, they are usually manageable and go away in the days following treatment. Others require specific treatment. Occasionally, it may not be possible for you to complete the course of treatment due to particular or severe side effects. Please talk to your nurse or doctor if you are worried about side-effects or feel they may prevent you from finishing the course.
Common (affecting more than one in 10 people) side effects:

- Urinary tract infection requiring postponement of the next dose of BCG.
- Some bladder discomfort and/or painful urination after treatment.
- Flu-like symptoms (chills, fever, headaches, muscle aches) which can persist for two to three days.
- Frequency and urgency of urination. This may persist for two to three days or sometimes longer. If these symptoms do not settle quickly, you should be tested for urinary infection. Urinary tract infection requires antibiotic treatment and postponement of the next dose of BCG.
- Blood in the urine.
- Debris in the urine

Occasional (affecting between one in 10 and one in 50 people) side effects:

- Inflammatory reactions can develop in various parts of the body (including testes, liver, joints and the back of the eye). You should report symptoms that could be related to these complications immediately, as they may need treatment.
- Narrowing of the urethra (water pipe) following repeated use of a catheter.
Rare (affecting less than one in 50 people) side effects:

- Persistent or severe bladder pain after treatment.
- Generalised and potentially serious infection with the BCG bacteria requiring antibiotic treatment in hospital with powerful antibiotics. This is not TB and there is no risk of catching TB from the treatment Hospital-acquired infection:
  - Colonisation with MRSA (0.9 to 1 per cent in 110 people).
  - Clostridium difficile bowel infection (0.2 to 1 per cent in 500 people).
  - MRSA bloodstream infection (0.08 to 1 per cent in 1250 people).

Following treatment, if you experience the following symptoms you must contact your doctor or seek emergency help immediately (if attending the Accident and Emergency department, please bring this information with you to aid in your treatment

- Any sign of an allergic reaction which includes difficulty in breathing, shortness of breath, wheezing, rash and/or swelling of the face.
- Any sign of a BCG infection which includes cough, high fever (temperature greater than 39.5 °C/103.1 °F) for more than 12 hours or a fever (temperature greater than 38.5 °C/101.3 °F) which lasts longer than two days.
Are there other important points?

- You are advised not to have sexual intercourse for at least 24 hours after each treatment dose as this can cause discomfort. For the duration of the course of treatment and for one week after finishing the course, you should use a condom during sexual intercourse.
- If you are a smoker, you should be aware that smoking seems to encourage the recurrence of bladder cancer.
- It may be preferable to talk to your employer ahead of time to schedule time off work during your treatment days.
- It is not known what effects BCG has on pregnancy; therefore it is recommended that female patients use birth control for the duration of their treatment.
- Women should not breastfeed while receiving BCG treatment.

What happens if you choose not to have treatment?

Your consultant has recommended BCG treatment because of your symptoms and investigation findings. If you choose not to have this treatment your consultant will discuss any alternatives that may be suitable for your type of bladder cancer. However it is important to note that not having treatment could have serious consequences for your health.

What alternatives are available?

Your urologist will have discussed alternative treatments options with you. They include repeated cystoscopy, radiotherapy, surgical removal of the bladder with urinary diversion or bladder reconstruction and intravesical chemotherapy.
Such treatments may need to be reconsidered in the future, particularly if your cancer does not respond to the BCG treatment or recurs. Please do ask your nurse or doctor if you require further information about these alternatives.

**How should you prepare for your treatment?**

You should not drink for four hours before coming for treatment. This is so you are able to hold the BCG more easily inside your bladder and also to keep its concentration at an acceptable level.

There is also some evidence that BCG treatment can interact with the influenza vaccine; for this reason, it is recommended that you do not undergo vaccination against influenza within six weeks of having an instillation of BCG.

Please advise your nurse or doctor of any medications you take regularly. Certain drugs, particularly immuno-suppressants and some antibiotics can affect how the treatment works. If you are on antibiotic treatment please contact us to check if you can have the treatment. Some antibiotics cause the BCG to be less effective and we would recommend you finish your course and wait at least a week before starting or carrying on BCG treatment.

If you feel unwell or are unable to attend your appointment for any reason then please contact the hospital and let them know as soon as possible.

**What happens during your treatment?**

When you arrive for your treatment you will be asked to empty your bladder. If you have already started some treatment your nurse will discuss with you how you have been feeling since the last dose and whether you have experienced any side-effects (see above).
For the treatment you will then be asked to lay flat on a couch. Some lubricating gel will be placed in your urethra (water pipe) and a fine plastic tube (called a catheter) will be passed through the urethra and into the bladder. Any remaining urine will be drained and the BCG will then be instilled through the catheter (this is a liquid solution of about 50 ml).

Please note that we will not be able to administer the BCG if you have a lot of blood in your urine or there are any signs of a urinary tract infection.

You will be able to go home after your treatment when you feel ready. Ideally you should hold the BCG solution in your bladder for two hours to allow the BCG bacteria to have the most beneficial effect.

You may be asked to make a further clinic appointment at reception before you leave the department so that you can complete your course of treatments.

**What should you expect after your treatment?**

Most patients will be able to travel home whilst the BCG solution is being held in their bladder. They will then pass the solution down the toilet at home after the two hours are up.

When passing urine within the first six hours after you have been treated, you should flush the toilet and then flush again (double-flush). Men should sit down to pass urine on the first occasion after the instillation of treatment but may pass urine in the normal fashion (standing) thereafter.

You should drink plenty of fluids (two to three litres) for two-three days after the treatment. Avoiding caffeinated drinks (tea, coffee, and cola) which can irritate the bladder can help to reduce any bladder symptoms.

Taking medications such as paracetamol or ibuprofen can help you cope with any side-effects. Please always read the instructions for use.
What is the BCG treatment regime?

Treatment regimens can vary slightly between hospitals but all follow established guidelines for treatment which are based on evidence from clinical trials. The course of treatment at UCLH is made up of two parts:

Induction regime:

- One dose of BCG, given every week for six weeks.
- Following this, a six week break with no treatment (to allow your bladder to recover).
- A cystoscopy (usually under general anaesthetic) is then performed to assess how well the treatment has worked. This will be planned during your treatment and you will receive an appointment letter in the post (please contact the team if you are concerned that you have not received your appointment).
- You will be seen in the general urology outpatient clinic around three weeks after your cystoscopy to discuss the results and ongoing plan.

Maintenance treatments:

- Following your initial cystoscopy, ongoing maintenance treatments may be advised.
- These are necessary when there is no tumour recurrence in order to maintain the benefit of the induction courses.
- Weekly instillations of BCG for between one and three weeks (depending on the side-effects experienced) every six months.
- We aim to begin the first maintenance course of treatment at six months from the very beginning of the induction course.
• Up to six maintenance courses can be given, which can take up to three years overall.
• Regular flexible cystoscopies (cystoscopy using local anaesthetic as an outpatient) every three to six months are needed to continue to inspect your bladder for any signs of cancer recurrence. If you are unsure when your flexible cystoscopy is due or you have not received an appointment letter, please contact the team.

The clinical nurse specialists are responsible for organising your treatment regime and administering the intravesical BCG immunotherapy in the outpatient clinic. They provide a point of contact for you for ongoing support throughout your treatment (see contact details).

A cystoscopy under general anaesthetic will require a short stay in hospital (usually as a day case, but sometimes with an overnight stay).

A flexible cystoscopy is performed in the outpatient setting.

References

National Institute for Health and Care Excellence (NICE) guideline [NG2] (2015), Bladder cancer: diagnosis and management [online]. Available at: https://www.nice.org.uk/guidance/ng2/ifp/chapter/About-this-information

Where can you get more information and support?

Macmillan Cancer Support
www.macmillan.org.uk
Tel: 0808 808 0000 (mon-fri, 9am-8pm)

Action on Bladder Cancer (ABC-UK)
www.actionbladdercanceruk.org
ABC is a UK based charity made up of healthcare professionals and patients who are dedicated purely to improving the lives of people with bladder cancer and raising awareness of the disease.

Fight Bladder Cancer
www.fightbladdercancer.co.uk
Fight Bladder Cancer is a UK based bladder cancer charity founded and run by bladder cancer survivors and their families.

The British Association of Urological Nurses (BAUN)
www.baun.co.uk
BAUN is a registered charity which aims to promote and maintain the highest standards in the practice and development of urological nursing and urological patient care.

The British Association of Urological Surgeons (BAUS)
www.baus.org.uk
BAUS is a registered charity which promotes the highest standards of practice in urology for the benefit of patients.
Contact details

University College Hospital at Westmoreland Street
Switchboard: 020 3456 7890 or 020 3456 7890
Website: www.uclh.nhs.uk

Richard Weston, clinical nurse specialist
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Hilary Baker, lead clinical nurse specialist
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How to find us

University College Hospital at Westmoreland Street
16 - 18 Westmoreland St, London, W1G 8PH

Intravesical treatment clinic

2nd floor outpatient’s department.

On arrival, please check in at the mezzanine floor reception.