Patient Information

Royal Devon and Exeter
NHS Foundation Trust

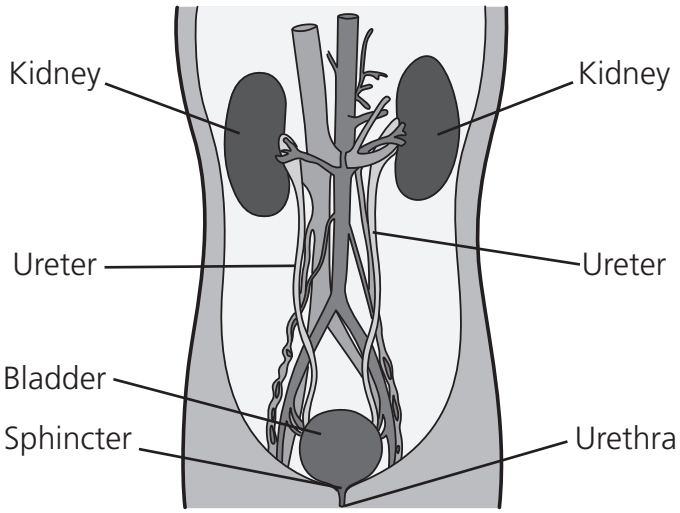
Transitional Cell Cancer of the Kidney and Ureter

The kidneys and cancer

The kidneys are two fist sized organs located on either side of the body, just underneath the ribcage. Their main role is to filter out waste products and excess water from the blood, producing urine. The ureters are the tubes connecting the kidneys to the bladder, they carry the urine from the kidney to the bladder.

Kidney cancer most frequently affects people over 50 years of age and is more common among men. Only one of the kidneys is usually affected by cancer.

Front View of Urinary Tract



The two most common types of kidney cancer are renal cell cancer (RCC) and transitional cell cancer (TCC). The distinction between these two types is important because their prognosis and treatment are different. Most patients with kidney cancer will be cured with approximately 70 per cent surviving long term.

Transitional cell cancers usually occur in the bladder are the most common type of bladder cancer. TCC can also develop in the part of the kidney called the renal pelvis. It is rare and only about 7 out of 100 kidney cancers (7%) diagnosed in the UK are transitional cell cancers. TCC of the ureter is even more uncommon than transitional cell cancer of the kidney.

Risks and causes

We do not know what causes most transitional cell cancers. But there are a number of factors that may increase your risk. These include:

- Smoking cigarettes / Cigars / Pipes
- Working with particular chemicals including industrial dyes, rubber, plastics, aluminium and pesticides
- Some types of medicines – for example some painkillers (phenacetin) and cyclophosphamide

Symptoms of TCC of the kidney or ureter

The symptoms of transitional cell cancer of the kidney are similar to those of other types of kidney cancer. They include blood in the urine and pain in your back, between the lower ribs, and the top of your hip bone. You may also need to pass urine very often or have pain when passing urine.

Tests to diagnose transitional cell cancer

The tests that you have to diagnose TCC may include:

Ultrasound scan

An ultrasound scan uses high-frequency sound waves to create an image of an organ in the body. It can often detect changes in the shape of the kidney that might be caused by a cancerous tumour.

Urine test

This is a simple test to check for specific cancer cells within the urine

Ureteroscopy and biopsy

Your urologist puts a flexible or rigid telescope into your urethra and extends the tip of the scope into the bladder and the ureter. This means they can see the inside of the ureter and take biopsies if they need to. You have this test under a general anaesthetic.

Retrograde pyelography

You may have retrograde pyelography at the same time as the ureteroscopy. The urologist puts a flexible tube (catheter) into your bladder and injects dye into it. Then they take a number of X-rays.

Computerised tomography (CT) scan

During a CT scan, a series of detailed images of the inside of your body are taken and put together by a computer. If you have a CT scan, you may be given a special dye to drink, or it may be injected. The dye makes the results of the CT scan clearer.

Magnetic resonance imaging (MRI) scan

You may also need to have a magnetic resonance imaging (MRI) scan, which can be used to produce detailed images of your kidneys. The images can help identify a tumour and determine its size.

You may also need to have a computerised tomography (CT) scan or a magnetic resonance imaging (MRI) scan. These scans can be used to produce detailed images of your kidneys. The images can help identify a tumour and determine its size.

How your doctors decide your treatment

Your doctor considers many factors when deciding which treatment is most suitable for you including:

- How far your cancer has grown or spread (stage)
- How fast growing your cancer is (grade)
- Your general health
- Your age and level of fitness

The earlier your cancer is found the easier it is to control and possibly cure it.

The most common treatment for transitional cell cancer of the kidney is surgery. Surgery for this type of cancer is usually a major operation and you need to be fit enough to make a good recovery.

Depending on the stage and grade of the cancer you may have chemotherapy after surgery, or rarely radiotherapy.

If your cancer is more advanced you may have chemotherapy or a combination of chemotherapy and radiotherapy.

Before you have treatment your doctor will arrange for you to have tests to check the stage of your cancer and your general health.

Surgery

Whether your cancer is in your kidney or ureter, you will probably have surgery if your cancer has not spread and you are fit enough. Most people have their kidney, ureter, and part of their bladder removed. This type of surgery is called a Radical Nephroureterectomy and gives the best chance of getting rid of the cancer completely.

You may also have some of the nearby lymph nodes removed and some surrounding tissue.

Your surgeon may consider other types of surgery depending on whether your cancer is in the ureter or the kidney.

If your cancer is in the ureter it may be possible to remove part of the ureter. This is called a Segmental Ureterectomy. This type of surgery is

only done if the tumour is small and is in the area of the ureter close to the bladder.

If you have only one kidney, your kidneys aren't working fully, or you aren't well enough for an operation, it may be possible to have laser treatment. This treatment is usually only for people who have early cancers which have a low risk of coming back. Doctors do not use laser treatment very often because there is a high risk of the cancer coming back afterwards.

How you have surgery

There are different ways to have surgery. You may have:

- Open surgery
- Keyhole (laparoscopic) surgery
- Percutaneous endoscopic surgery

Open surgery

Open surgery means that you will have a wound either on your back and side or on your front, across the chest and abdomen. This type of surgery allows the surgeon to easily remove the kidney or ureter and some surrounding tissue.

Keyhole (laparoscopic) surgery

Keyhole or laparoscopic surgery is also called minimal access surgery. It means that you have surgery without needing to have a major wound (incision). The specialist surgeon uses an instrument called a laparoscope, which is a thin, flexible tube with a camera and light on the end. Instead of one large wound you have several small cuts about 1cm long made in your skin. Usually we make a larger cut in the lower abdomen to safely remove the lower end of the ureter and a segment of bladder tissue which incorporates where the ureter enters the bladder.

Percutaneous endoscopic surgery

For people who only have one kidney it may be possible for the surgeon to remove just the tumour using an endoscope. The surgeon makes a small cut in the skin at the side of the body. Then they use an ultrasound or CT scan to guide them and put the endoscope into the kidney to remove the tumour from the kidney or the top of the ureter. This type of operation is not done very often because there is a high risk of the cancer coming back.

Chemotherapy

If your surgeon finds that your cancer has spread into the surrounding tissue or the lymph nodes you may have chemotherapy after surgery. The chemotherapy reduces the risk of the cancer coming back. Your doctor may also recommend chemotherapy if your cancer is advanced when you are diagnosed or if you cannot have surgery for other health reasons.

Chemotherapy treatment usually involves having a combination of drugs.

Rarely, doctors give treatment directly into the ureter. This is called regional chemotherapy. The drugs you have are BCG or the chemotherapy Mitomycin. You have this put through a tube that the doctor inserts through your urethra and into the ureter. Or you may have it through a tube put into the kidney (a nephrostomy tube). This treatment is only used for people who have one kidney, or whose kidneys aren't working very well, or for people who can't have an operation.

Radiotherapy

Radiotherapy is not often used for TCC of the kidney or ureter. You may have radiotherapy to the area of the kidney or ureter if you are not fit enough to have an operation or your cancer has spread into surrounding tissue (locally advanced TCC).

Sometimes doctors recommend radiotherapy after surgery, to reduce the risk of the cancer coming back.

Your treatment plan

You can expect to be cared for by a multidisciplinary team, often comprising a urologist, an oncologist (who specialises in radiotherapy and chemotherapy), a radiologist, a nephrologist (a kidney specialist) and a specialist nurse.

You will be given a key worker, usually the specialist nurse, who will be responsible for coordinating your care. Your team will

recommend what they think is the best treatment option, but the final decision will be yours.

When deciding what treatment is best for you, your doctors will consider: the stage and grade of your cancer (how big it is and how far it has spread) and your age and general health.

If the cancer has not spread out of your kidney (T1 or T2 TCC), it can usually be cured by surgery.

If the cancer has spread out of your kidney (T3 or T4 TCC), a complete cure may not be possible. However, it should be possible to slow the cancer's progression and treat any symptoms.

Follow up

After you have finished your treatment you will be followed up closely. As part of your follow up you will have regular cystoscopies. This is to check for cancer in your bladder. This is because transitional cell cancers come back in the bladder in about 1 in 5 people (20%). They will discuss with you the surveillance plan which involves a repeat CT scan in 3-6 months and thereafter annual scans for at least 5 years. These can alternate between ultrasound scans and CT scans to reduce the amount of radiation you are exposed to.

Pain control

If you are having pain, ask your GP or hospital team for advice. Most people with pain due to kidney cancer can have their pain relieved by simple painkillers like paracetamol, ibuprofen or codeine. You can get a prescription, if necessary, from your GP or hospital doctor. If these are not effective, stronger painkillers will be provided. If pain is a problem you will be referred to the local Palliative Care team.

Psychological, Practical and Social support

Being diagnosed with cancer can be very distressing, particularly if it's incurable. The news can often be difficult to take in and comprehend. You may also have concerns about the effect on your family or practical concerns about how you will cope.

Your Cancer Nurse Specialist (CNS) can advise and help with this. You can contact Your Cancer Nurse Specialist on **01392 402747**, alternatively your GP can advise. The FORCE cancer charity based on the Royal Devon and Exeter Hospital site will provide counselling, support and advice for you and your family also.

Sexual issues and fertility

Fertility is not usually affected by kidney cancer, but if you are planning to have a baby you should discuss this with your doctors and nurses. Having cancer can affect your sex life and, if you have concerns about this you can contact Your Cancer Nurse Specialist on **01392 402747**.

Self-management and care

Many people with cancer feel they are not in control – this is normal. We will always involve you in any decisions about your treatment options. There are things you can do to help your treatment including a healthy diet, taking regular exercise, reducing alcohol consumption and stopping smoking. Please see our leaflet on Living with and Beyond Kidney Cancer

Local NHS service and care/ treatment options

The Royal Devon and Exeter Hospital is an NHS Cancer Centre providing specialist treatments. We provide a full range of kidney cancer treatments with a few exceptions for rare situations, when we may have to refer you to another hospital for treatment. Many patients are referred into Exeter for specialist treatments for kidney cancer from other hospitals in the South West region.

Contact Details

Urology: Consultants: Mr M Crundwell, Mr T Dutton, Mr M Moody, and Mr M Stott,

Cancer Nurse Specialist: Moira Anderson **01392 402747**

Oncology: Consultants: Dr V Ford, Dr R Srinivasan and Dr D Sheehan

Out of hours or emergency advice and support

We provide 365 days a year urology and oncology cover for emergencies. This can be accessed via NHS **111**, your GP surgery or your local Emergency Department. If you have recently had surgery you may contact the Urology ward directly on **01392 402737**. For non-urgent problems you can contact Your Cancer Nurse Specialist on **01392 402747** and we will call you back in working hours. In an acute situation you can contact the Emergency Services on **999**.

Staging and grading

If kidney cancer is confirmed, it is usually possible to determine its grade and stage.

The stage describes how far the cancer has spread, and the grade describes how aggressive the cancer is and how quickly it's likely to spread.

Both the stage and grade of your kidney cancer will help determine your recommended treatment and the likelihood of achieving a cure.

Healthcare professionals use the TNM system to stage kidney TCC:

- T – indicates how large the cancer has grown.
- N – indicates whether nearby lymph nodes are affected (lymph nodes are small, oval-shaped glands found throughout the body, which help protect against infection).
- M – indicates whether the cancer has spread to another part of the body (M stands for metastases, which is the medical term for cancer that has spread).

The stages of kidney transitional cell cancer are:

- T1-3 – where the tumour has not spread out of the kidney.
- T4 – where the tumour has spread outside the kidney.
- N0 – no lymph nodes have been affected.
- N1-2 – there are cancer cells in lymph nodes.
- M0 – cancer has not spread.
- M1 – cancer has spread to another part of the body.

Kidney transitional cell cancer is graded using a scale of one to three. The higher the grade, the more aggressive the cancer.

Further reading

All of these organisations provide patient information on kidney TCC.

British Association of Urological Surgeons: **www.baus.org.uk**

Cancer Research UK: **www.cancerresearchuk.org/**

Kidney Cancer UK: **www.kcuk.org**

Macmillan Cancer Support: **www.macmillan.org.uk**

National Institute of Clinical Excellence: **www.nice.org.uk**

NHS Choices: **www.nhs.uk**

Next steps

You will have the opportunity to discuss your condition, results of tests and treatment options with your specialists before any treatment is planned. Sometimes further tests such as a CT scan or a biopsy are required before we can make a definite plan. We expect to be able to provide treatment for your kidney cancer quickly. We are required to meet the following standards for all urology cancer patients:

- 31 day wait from diagnosis to first treatment.
- 31 day wait to subsequent treatment.
- 62 day wait from urgent GP referral or consultant upgrade to first treatment.

Before surgery you will be required to attend a pre-operative assessment clinic appointment and further tests might be recommended.

My Kidney Cancer Care Plan

You can ask your consultant or specialist nurse to help you complete this care plan if you wish.

Patient name:

Consultant:

Your Cancer Nurse Specialist:

Diagnosis:

Stage and Grade of Cancer:

Investigations planned:

Date of investigations:

Treatment options:

Preferred treatment:

Date for Pre-operative assessment:

Date for Surgery:

Follow up investigations:

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