Cryoablation of renal tumour

What is the evidence base for this information?
This leaflet includes advice from consensus panels, the British Association of Urological Surgeons, the Department of Health and evidence based sources; it is, therefore, a reflection of best practice in the UK. It is intended to supplement any advice you may already have been given by your urologist or nurse specialist as well as the surgical team at Addenbrooke’s. Alternative treatments are outlined below and can be discussed in more detail with your urologist or specialist nurse.

What does the procedure involve?
This involves exposure of the kidney telescopically or through an incision in the side or simple placement of needles for freezing (probes) via punctures in the skin (percutaneous approach). The tumour(s) in the kidney is located, either within the abdominal cavity or externally, using ultrasound and then frozen using a special low temperature probe applied to the kidney. This may involve biopsy of the kidney at the time of surgery.

What are the alternatives to this procedure?
Observation, embolisation, partial nephrectomy, radical nephrectomy, laparoscopic or keyhole approaches to surgery.

What should I expect before the procedure?
You will usually be admitted on the same day as your surgery. You will normally undergo pre assessment on the day of your clinic or an appointment for pre assessment will be made from clinic, to assess your general fitness, to screen for the carriage of MRSA and to perform some baseline investigations. After admission, you will be seen by members of the medical team which may include the consultant, junior urology doctors and your named nurse.

You will be asked not to eat or drink for six hours before surgery and, immediately before the operation, you may be given a pre-medication by the anaesthetist which will make you dry-mouthed and pleasantly sleepy.
Please be sure to inform your urologist in advance of your surgery if you have any of the following:

- an artificial heart valve
- a coronary artery stent
- a heart pacemaker or defibrillator
- an artificial joint
- an artificial blood vessel graft
- a neurosurgical shunt
- any other implanted foreign body
- a prescription for warfarin, aspirin, rivaroxaban, dabigatran, apixaban, edoxaban or clopidogrel, ticagrelor or blood thinning medication
- a previous or current MRSA infection
- high risk of variant CJD (if you have received a corneal transplant, a neurosurgical dural transplant or previous injections of human derived growth hormone)

What happens during the procedure?

Normally, a full general anaesthetic will be used and you will be asleep throughout the procedure. In some patients, the anaesthetist may also use an epidural anaesthetic which improves or minimises pain post operatively.

You will usually be given an injectable antibiotic before the procedure after checking for any drug allergies.

A catheter is inserted into the bladder at the start of the operation. The treatment is usually carried out using telescopes inserted into the abdomen or loin but may also be performed using an incision in the side (or loin). Several small puncture wounds are made to allow the telescopes and the freezing probes to be inserted. Occasionally, the treatment is carried out in the x-ray department under CT control when the only punctures made are those for the freezing and temperature monitoring probes.

After insertion of the telescopes, the abnormal area is identified and samples are taken with a biopsy needle. The temperature and freezing probes are then inserted and two freezing cycles, each of 10 minutes, are performed. The treatment is monitored by ultrasound and by temperature probes.

Once the probes have been removed, the bleeding is controlled with a special paste which promotes clot formation.

What happens immediately after the procedure?

You will be encouraged to mobilise the next day and to take clear fluids by mouth immediately after the operation. After your operation, you may be given an injection under the skin of a drug (dalteparin) that, along with the help of elasticated stockings provided by the ward, will help prevent thrombosis (clots) in the veins.

The average hospital stay is three days.
Are there any side effects?
Most procedures have a potential for side effects. You should be reassured that, although all these complications are well recognised, the majority of patients do not suffer any problems after a urological procedure.

Please use the check boxes to tick off individual items when you are happy that they have been discussed to your satisfaction:

Common (greater than one in 10)
- Temporary insertion of a bladder catheter and wound drain
- Bleeding requiring further surgery or transfusions
- Bulging of the wound due to damage to the nerves serving the abdominal wall muscles (if a loin approach has been used for open surgery)

Occasional (between one in 10 and one in 50)
- Entry into the lung cavity requiring insertion of a temporary drainage tube
- Need of further therapy for cancer
- Need for re-biopsy of the tumour at a later stage
- Infection, pain or bulging of the incision site requiring further treatment

Rare (less than one in 50)
- Anaesthetic or cardiovascular problems possibly requiring intensive care admission (including chest infection, pulmonary embolus, stroke, deep vein thrombosis, heart attack and death)
- Involvement or injury to nearby local structures (blood vessels, spleen, liver, lung, pancreas and bowel) requiring more extensive surgery
- May be an abnormality other than cancer on microscopic analysis

Hospital-acquired infection (overall risk for Addenbrooke’s)
- Colonisation with MRSA (0.01%, two in 15,500)
- Clostridium difficile bowel infection (0.02%; three in 15,500)
- MRSA bloodstream infection (0.00%; 0 in 15,000)

(These rates may be greater in high risk patients eg with long term drainage tubes, after removal of the bladder for cancer, after previous infections, after prolonged hospitalisation or after multiple admissions).

What should I expect when I get home?
When you leave hospital, you will be given a discharge summary of your admission. This holds important information about your inpatient stay and your operation. If, in the first few weeks after your discharge, you need to call your GP for any reason or to attend another hospital, please take this summary with you to allow the doctors to see details of your treatment. This is particularly important if you need to consult another doctor within a few days of your discharge.

There may be some discomfort from the small incisions in your abdomen but this can normally be controlled with simple painkillers.

All the wounds are closed with absorbable sutures which do not require removal.
It will take 10 to 14 days to recover fully from the procedure and most people can return to normal activities after two to four weeks.

**What else should I look out for?**

If you develop a temperature, increased redness, throbbing or drainage at the site of the operation, you should contact your GP immediately.

After surgery through the loin, the wall of the abdomen around the scar will bulge due to nerve damage. This is not a hernia but can be helped by strengthening up the muscles of the abdominal wall by exercises.

**Are there any other important points?**

An outpatient appointment will normally be arranged for you 12 weeks after the operation. At this time, we will be able to inform you of the results of the pathology tests on the treated kidney.

It will be at least 14 to 21 days before the pathology results on the tissue removed are available. It is normal practice for the results of all biopsies to be discussed in detail at a multi-disciplinary meeting before any further treatment decisions are made. You and your GP will be informed of the results after this discussion.

We will arrange for you to undergo an x-ray, a CT scan and a radioisotope scan of the kidneys six months after the operation to gauge the response to treatment.

**Driving after surgery**

It is your responsibility to ensure that you are fit to drive following your surgery.

You do not normally need to notify the DVLA unless you have a medical condition that will last for longer than three months after your surgery and may affect your ability to drive. You should, however, check with your insurance company before returning to driving. Your doctors will be happy to provide you with advice on request.

**Privacy & dignity**

Same sex bays and bathrooms are offered in all wards except critical care and theatre recovery areas where the use of high tech equipment and/or specialist one to one care is required.

**Hair removal before an operation**

For most operations, you do not need to have the hair around the site of the operation removed. However, sometimes the healthcare team may need to remove hair to allow them to see or reach your skin. If the healthcare team consider it is important to remove the hair, they will do this by using an electric hair clipper, with a single-use disposable head, on the day of the surgery. Please do not shave the hair yourself, or use a razor for hair removal, as this can increase the risk of infection to the site of the operation. If you have any questions, please ask the healthcare team who will be happy to discuss this with you.
Is there any research being carried out in this field at Addenbrooke’s Hospital?
There is no specific research in this area at the moment but all operative procedures performed in the department are subject to rigorous audit at a monthly audit and clinical governance meeting.

Who can I contact for more help or information?

**Oncology nurses**

Uro-oncology nurse specialist
01223 586748

Bladder cancer nurse practitioner (haematuria, chemotherapy and BCG)
01223 274608

Prostate cancer nurse practitioner
01223 274608 or 216897 or bleep 154-548

Surgical care practitioner
01223 348590 or 256157 or bleep 154-351

**Non-oncology nurses**

Urology nurse practitioner (incontinence, urodynamics, catheter patients)
01223 274608 or 586748 or bleep 157-237

Urology nurse practitioner (stoma care)
01223 349800

Urology nurse practitioner (stone disease)
01223 349800 or bleep 152-879

**Patient advice and liaison service (PALS)**
Telephone: +44 (0)1223 216756
PatientLine: *801 (from patient bedside telephones only)
email: pals@addenbrookes.nhs.uk
Mail: PALS, Box No 53
Addenbrooke’s Hospital
Hills Road, Cambridge, CB2 2QQ

References

NICE clinical guideline No 74: Surgical site infection (October 2008); Department of Health: High Impact Intervention No 4: Care bundle to preventing surgical site infection (August 2007)
What should I do with this leaflet?
Thank you for taking the trouble to read this patient information leaflet. If you wish to sign it and retain a copy for your own records, please do so below.

If you would like a copy of this leaflet to be filed in your hospital records for future reference, please let your urologist or specialist nurse know. If you do, however, decide to proceed with the scheduled procedure, you will be asked to sign a separate consent form which will be filed in your hospital notes and you will, in addition, be provided with a copy of the form if you wish.

I have read this patient information leaflet and I accept the information it provides.

Signature……………………………….……………Date……………………………

We are now a smoke-free site: smoking will not be allowed anywhere on the hospital site. For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Help with this leaflet:
If you would like this information in another language, large print or audio format, please ask the department to contact
Patient Information: 01223 216032 or patient.info@addenbrookes.nhs.uk

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