Ureteroscopy 輸尿管鏡檢查

Introduction

Ureteroscopy (URS) is a procedure for diagnosing and treating pathology in the ureter and renal pelvis. The endoscope is inserted via the urethra and then ureter to the stone or target lesion under video monitoring. Ancillary procedures, including insertion and removal of the ureteric access sheath and ureteric stent, may be necessary.

Indications of URS

1. Urinary stone (ureteroscopic lithotripsy, URSL)
2. Ureteric obstruction
3. Urothelial and ureteric lesions in upper urinary tract

Ureteroscopic lithotripsy (URSL)

URSL is one of the treatment options for ureteric stones. Alternative treatments for ureteric stones include conservative treatment, shockwave lithotripsy, percutaneous nephrolithotripsy, and open or laparoscopic ureterolithotomy.

The procedure

The procedure may be performed under general, regional or local anaesthesia. During the surgery, the legs of the patient will be elevated and put on a comfortable stirrup. The doctor will then pass an endoscope into the urethra, bladder and finally, ureter and/or renal pelvis. The procedure is performed under video monitoring through the endoscope. Rigid and/or flexible ureteroscopes may be required during the procedures. An access sheath may be placed in the ureter to facilitate re-entry during the procedure. The doctor will then identify the stone or target lesion. Stone will be broken by instruments. Lesions such as tumors or strictures will be dealt with accordingly. X-rays may sometimes be required to guide the endoscope. Ureteric stent and urinary catheter may be inserted as required. Video recordings of selected procedures may be carried out at some centres for academic purposes.

Peri-operative complications

1. Anaesthetic complications and radiation hazard
2. Injury to adjacent organs including perforation of ureter (1-5%) and avulsion of ureter
3. Failed instrumentation, failed stone fragmentation, “lost” stone
4. Retained instrument

5. Conversion to open surgery or other interventional procedures

Post-operative complications

1. Urinary tract infection (~2-15%) and life-threatening septicemia
2. Haematuria and dysuria
3. Residual stone and stone recurrence require repeating procedures and ancillary procedures
4. Stent symptoms (such as urinary frequency, urgency, loin pain), if a ureteric stent was inserted
5. Ureteric stricture (0.5-2%, up to 25% in patients with stone impaction)
6. Mortality (rare)

Before the procedure

Preparation appropriate to specific procedures will be prescribed, such as antibiotic prophylaxis or X-ray. Pulmonary and cardiac conditions need to be optimized before operation. There should not be uncorrected coagulopathy or local infection. Female patients of reproductive age should be screened for pregnancy because an X-ray would cause serious harm to the fetus. Prophylaxis against deep vein thrombosis may be indicated in long procedures or at-risk patients. Short-term medications may be prescribed to relax the ureter to facilitate the insertion of a ureteric access sheath.

After the procedure

Postoperative care appropriate to specific procedures will be prescribed, such as need for fasting, monitoring, analgesics and sedation, catheterization, antibiotics cover, blood transfusion, and fluid replacement. There may be bloody urine. The patient may pass blood clot or stone pieces after removal of a urinary catheter. The patient will be given instructions for the removal of the ureteric stent if required.

Follow up

Patients will be discharged when considered appropriate for specific operations. They should follow instructions for follow-up given upon their discharge. If serious events develop after discharge, the patient should seek medical advice at the nearest Accident and Emergency Department.

Remarks

This is general information only and the list of complications is not exhaustive. Other unforeseen complications may occasionally occur. In special patient groups, the actual risk may be different. For further information, please contact your doctor.