

Information on Renal Biopsy

Introduction

Renal biopsy is done to establish the type of renal disease and its seriousness so that appropriate treatment can be given.

The Procedure

During the biopsy, the patient shall lie in prone position, his/her back arched up, with pillows tucked beneath his abdomen (1-2 pillows needed). The kidneys are located by ultrasound scanning. After administering a local anaesthetic to the back of the patient, the doctor will make a small incision. Guided by ultrasound scanning, the doctor will insert a needle through the incision into the kidney for tissue collection. The procedure may be repeated to ensure that enough tissue is taken. The doctor may instruct the patient to hold his/her breath during the procedure, as and when appropriate.

Under certain circumstances, the doctor may perform the procedure with the patient in a non-prone position.

The patient remains conscious throughout the procedure, which can be completed smoothly with his/her cooperation.

Risk and Complication

Complications include:

1. Death: occurrence rate: < 0.1%.
2. Mild haematuria: so mild that it is invisible to the naked eye but can be detected with a microscope or testing strips. Occurrence rate: 100%. No obvious symptoms and not serious.
3. Serious haematuria: occurrence rate: 2.2-5.1%. Condition usually improves in 24 hours. May last for a few days.
4. Perinephric hematoma: occurrence rate: 90%. No clear symptoms. Heals in 2-3 months.
5. Anomalous arteriovenous fistula: occurrence rate: 0.3-19 %. Usually without clear symptoms and not serious. Usually heals spontaneously in 3-20 months.
6. Other rare complications: perforation of another organ such as the intestines and spleen, pneumothorax and wound infection.

Bleeding is the most common and more serious type of complication, and there are cases when blood transfusions (0.9%) are needed. If bleeding is uncontrollable, an angiographic intervention will be needed to stop it (occurrence rate: <0.6%). For more serious cases, surgical kidney removal is necessary (occurrence rate: 0.01%). There is also a slight chance of inadequate sampling in the renal biopsy to enable the issuing of a proper pathological report from the pathologist, which may necessitate one to repeat the renal biopsy procedure.

Before the Procedure

The patient shall go to the hospital to get prepared for the following:

1. Signing the Surgical Consent Form after the physician has explained to him/her about the reasons, procedures and possible complications of the biopsy;
2. Sampling blood for laboratory test to ensure safety of the biopsy;
3. Skin cleaning and sterilization. Removal of hair in the lumbar region, if necessary.
4. Other preparations:
 - (a) A fasting period of 4-6 hours needed before biopsy;
 - (b) Diabetes patients shall withhold the anti-diabetic medications upon fasting as prescribed;
 - (c) Medications for control of blood pressure should be taken as advised;
 - (d) If instructed by doctor, aspirin, anti-platelet agents and anticoagulant/warfarin may need to be withhold 5-7 days before the biopsy;
 - (e) Empty bladder before the biopsy to reduce sensation of fullness;
 - (f) If necessary, analgesic or tranquilizing drug will be administered to patient in accordance with doctor's instruction 30 minutes before the biopsy;
 - (g) Patient learns how to inhale and exhale deeply so that he/she can hold the breath during the biopsy.

After the Procedure

1. Immediate care
Health care professionals will apply sterile spray and dressing to the wound, which will then be covered with pressure bandage to prevent bleeding.
2. Aftercare
 - (a) Patient shall lie down on his back and remain bed-rested for at least 8 hours to minimize the risk of bleeding. To prevent bleeding, he/she should avoid vigorous body movements.
 - (b) For early detection of blood loss, a nurse will check the patient's blood pressure frequently. The patient's urine will be examined to see if there is profuse bleeding.
 - (c) Except for some special cases, the patient should drink more water (at least 2000ML daily) to guard against urinary obstruction.

Follow Up

1. Patient should not do any vigorous physical exercise or activity during the first two weeks to prevent secondary bleeding. He/she should keep the abdomen free from pressure (if possible, do not cough or sneeze).
2. If there is lumbar pain, hematuria, dizziness or any signs of bleeding, consult the health care professionals immediately.
3. Resume aspirin, anti-platelet agents and anticoagulant/warfarin as prescribed,

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.