Background information

——Detection technique

We analyzed the common detection methods at present: urine test, biopsy and serum Cr detection.

Urine test:

Urine detection is non-invasive, simple, and effective, and can dynamically monitor acute rejection.

At present, urine chemokine detection has the advantage of being completely non-invasive and can be used to diagnose acute renal allograft dysfunction. This technique can complement allograft biopsies and serum Cr techniques. Combined with serum Cr and urine chemokine monitoring, acute graft renal dysfunction (a medical emergency requiring immediate treatment) can be distinguished from non-polar creatinine elevation and dysfunction.

- For patients with elevated Cr and urinary IP-10/Mig, biopsy should be performed immediately and an accurate diagnosis should be made before treatment begins.
- For patients with both elevated serum Cr and urinary chemokine, if urine tested positive for BK virus by polymerase chain reaction, the risk of BK virus nephritis is very high and biopsy can be avoided.
- However, if the urine chemokines are normal and serum Cr was elevated, it may be due to chronic hidden damage of the transplanted kidney.

Since there is no distinction between acute rejection, acute tubular injury, or BK virus nephritis, a combination of biopsy and urine testing is required if both Cr and urinary chemokine levels are elevated.

Biopsy:

Biopsy, referred to as biopsy, refers to the application of local resection, forceps, puncture and extraction , and other surgical methods, from patients living to obtain pathological tissue for pathological examination, in order to determine the method of diagnosis.

Advantages of biopsy:

1. Biopsy not only helps to make accurate and timely diagnosis and differentiation of diseases, but also can evaluate the efficacy. At the same time, the accuracy of biopsy

is very high, known as the gold standard for the diagnosis of transplant organ complications.

2. It is convenient to carry out various histochemistry, cytochemistry, ultrastructure, and pathogen culture studies.

Disadvantages of biopsy:

1. Biopsy procedures are expensive and have potential complications.

2. Sampling errors in the biopsy are an additional challenge, and multiple samples can improve diagnostic accuracy

3. Accurate interpretation of kidney transplantation biopsy results requires extensive experience in the analysis of biopsy samples by pathologists as evidence of kidney transplantation injury.

Other:

- Color Doppler ultrasound, one of the current tests for kidney transplantation, requires the patient to fill the bladder before testing. (Excerpt from "Color Doppler Ultrasound" in Baidu Baike)
- Although the needle biopsy technique of transplanted kidney has been developed and the detection results are more accurate, it is still prone to trauma and contraindications.
- At the same time, the operation is complicated. Although the needle biopsy technique of transplanted kidneys has been developed and the detection results are more accurate, there are still traumas and contraindications. Tedious operation and a series of problems. (Excerpt from "Kidney Puncture Biopsy" in Baidu Encyclopedia)
- Biopsies are typically 70-80% accurate and require multiple samples and analysis by an experienced physician.