

## Renal Services

# Everything I need to know about renal artery stenosis

### What is renal artery stenosis?

Renal artery stenosis is the narrowing of the main blood vessel running to one or both of your kidneys.

### Why does renal artery stenosis occur?

It is part of the process of arteriosclerosis (hardening of the arteries), that develops in very many of us as we get older. As well as becoming thicker and harder, the arteries develop fatty deposits in their walls which can cause narrowing. If the kidneys are affected there is generally also arterial disease (narrowing of the arteries) in other parts of the body, and often a family history of heart attack or stroke, or poor blood supply to the lower legs.

Arteriosclerosis is a consequence of fat in our diet, combined with other factors such as smoking, high blood pressure and genetic factors inherited, it may develop faster if you have diabetes.

### What are the symptoms?

You may have fluid retention, where the body holds too much water and this can cause breathlessness, however often there are no symptoms. The arterial narrowing does not cause pain, and urine is passed normally. As a result this is usually a problem we detect when other tests are done, for example, routine blood test to measure how well your kidneys are working.

### What are the complications of renal artery stenosis?

**Kidney failure**, if the kidneys have a poor blood supply, they may stop working. This can occur if the artery blocks off suddenly or more gradually if there is serious narrowing. The prevention of kidney failure is one of the main aims when we treat renal artery stenosis.

**High blood pressure**, one of the jobs the kidneys normally perform is to control the blood pressure. If blood supply is reduced (because of narrowing of the arteries), this can cause high blood pressure. This puts strain on the rest of the circulation, so that using drugs to control the blood pressure can be important. Good blood pressure control reduces the risk of stroke, heart attack and kidney failure.

**Fluid retention**, renal artery stenosis can lead to fluid retention. This may cause ankle



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swelling, or sometimes cause fluid in the lungs. If you get fluid in the lungs, this can cause a sudden attack of breathlessness.

### How do we confirm the diagnosis?

Normally we check the kidneys with an ultrasound scan in the X-ray Department, which measures the size of both of your kidneys. If one kidney is smaller than the other, this can give a clue to arterial narrowing. Scans using isotope injections and special “spiral” CT scan are also used.

The main test to prove the diagnosis is an angiogram. In this, a narrow plastic tube is passed into the artery in the groin and up the abdomen to the area of the kidneys. X-ray dye is injected, which shows in detail the outline of the arteries to the kidneys. The procedure is similar to angiograms that look at the heart or the legs, which some patients with renal artery stenosis have previously had.

### What is the treatment of renal artery stenosis?

We try to relieve the narrowing in the artery and improve the blood flow to the kidney. The simplest way to do this is by placing a small balloon in the artery during an angiogram, and inflating it so that the narrowing is stretched up. This procedure is called angioplasty. It is normally very successful, but follow up tests are needed to be sure that the narrowing does not come back. If the narrowing does return after a few months, it can be dilated again. Sometimes it helps to place a metal wire tube into the artery (called a Stent) at the same time as the angioplasty.

It is possible for a surgeon to operate on the artery and to relieve the narrowing. Surgery can be done if angioplasty fails, but as this is a major operation, it requires careful checks of the heart and lungs beforehand.

### What about diet and cholesterol?

There are some other things you can do which may help not only the arteries to your kidneys, but any other arteries in your body affected by arteriosclerosis.

- **Smoking**, if you smoke, this puts strain on the arteries and you should stop.
- **Diet**, a healthy diet without too much saturated fat or salt is advisable. Our dietician can give you advice on this.
- **Cholesterol**, the level of cholesterol (fat in the blood) should be measured. If this is too high despite a good diet, it may help to take extra drugs to lower the cholesterol level.
- **Aspirin**, some of the problems in renal artery stenosis are due to tiny blood clots around the arterial hardening. Taking a small aspirin tablet daily reduces the tendency for this to happen, but this **must** be discussed with your doctor first.
- **Exercise**, regular moderate exercise will be good for you, but of course you should discuss this with your doctor in case you also have heart disease.

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### Are there any drugs to avoid?

There are certain types of drugs which should be avoided in patients with renal artery stenosis.

- The first group are those drugs used to treat high blood pressure and heart failure, ACE inhibitors and have names ending in “opril”. Examples are Captopril, Lisinopril, Ramipril and Fosinopril. ARB which have names ending “sartan” such as Losartan, candesartan, Olmesartan and potassium sparing diuretics such as Amiloride and Spironolactone. Your doctor should know to avoid these drugs but you should check with a doctor if you are on any medication you are unsure of. It is important to not stop taking any prescribed drugs until you have discussed this with a doctor.
- The next group are the anti-inflammatory drugs, used for arthritis and should be used with caution because they can cause fluid retention and reduction in kidney function. There are many types of these, common ones are Brufen and Voltral. Nurofen, which is available over the counter at your chemist, is also one of this type of drug and **should not be used** without discussing the risks and benefits with your doctor.

### Further Information

If you need any further information or clarification please contact Ward 50 on 024 7696 7756.

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