

Study questions need for routine intervention in patients with renovascular disease

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Some invasive procedures that are becoming increasingly common as a first line of treatment for patients diagnosed with narrowed arteries in and around the kidneys may not be necessary, according to a new study by researchers at Wake Forest University Baptist Medical Center.

The study shows that the condition, known as renal artery stenosis, only progresses to a dangerous blockage in a very small percentage of cases and does not always necessitate a surgical or even minimally-invasive procedure, such as angioplasty and stenting, both of which are becoming more and more common as technology makes the narrowing easier to detect.

The finding is especially timely because the number of these procedures has risen so dramatically in recent years that the federal Centers for Medicare and Medicaid Services has questioned whether such procedures are, in fact, necessary for all patients with renal artery stenosis - and whether the government should pay for them.

Renal artery stenosis is the narrowing of blood vessels in and around the kidneys that can lead to declining kidney function or hypertension that is difficult to control. There is an ongoing debate about how best to treat patients with this condition. Current management options include treatment with medicine, surgical bypass of the stenosis, or approaches such as angioplasty and stenting, where a wire mesh tube is placed over a balloon and threaded through the blood vessels via a needle puncture of the skin to the area of narrowing. When the balloon is inflated, the stent

expands, locks in place and forms a scaffold, permanently holding the artery open to increase blood flow.

"We think these interventions are beneficial for a group of patients," said study co-author, Ross P. Davis, M.D., a vascular surgery fellow in the Department of Vascular and Endovascular Surgery. "But as physicians, we need to be careful about reserving those interventions for specific indications, not just for all patients whose ultrasound reports confirm the presence of artery narrowing. There need to be other indicators of progressive renovascular disease present to consider subjecting patients to the risks and costs of these procedures."

The study appears in the September issue of the *Journal of Vascular Surgery*, the peer-reviewed publication of the Society for Vascular Surgery.

For the study, researchers reviewed the medical records of 434 hypertensive patients who received at least two renal artery ultrasounds from October 1993 through July 2008 to determine whether they had renal artery stenosis. Patients referred for renal artery ultrasound typically have blood pressure that has grown more difficult to control or have declining kidney function.

The researchers found that, of the 863 kidneys examined, 178 - just over 20 percent - showed significant stenosis, or narrowing of the renal arteries, at the time of the patients' initial ultrasounds. During follow up, however, only 72 kidneys showed progression of the disease, with only two percent - 18 of the original 863 - progressing to occlusion, or blockage of one or both of the renal arteries. In addition, the researchers found that progression of the arterial stenosis did not always predict a severe decline of kidney function.

Currently, patients who undergo renal artery ultrasound and are found to

have renal artery stenosis may be recommended for surgical bypass or angioplasty with stenting to reinforce and hold open narrowed walls and ultimately, prevent complete blockage of the renal arteries, which may cause kidney failure, among other things. These recommendations have proven of value in the presence of severe hypertension and declining kidney function, but not in the absence of these indications.

Over the last several years, detection of renal artery stenosis has grown easier as technology has improved and become more widely available, Davis said. But the ability to detect the disease earlier does not mean that intervention should always be applied immediately upon detection, he added, because there is increasing evidence that not every case of renal artery stenosis will contribute to severe hypertension or poor kidney function.

"You can identify that the patient has stenosis, but not necessarily that it is causing, or is going to cause, a problem for that patient," Davis said. "The fact that you have stenosis doesn't necessarily mean you have to have something done about it."

In certain situations, management with medicine may be the most appropriate therapy, Davis said, adding that surgery or [angioplasty](#) with stenting could be considered when there is evidence that the condition is more serious, such as if blood pressure becomes increasingly difficult to manage with medication and/or if [kidney function](#) continues to decline.

The Centers for Medicare and Medicaid Services has not yet made any changes to the way it reimburses physicians and hospitals for treatment of renal artery stenosis. It is awaiting the results of several larger studies that are specifically designed to evaluate the usefulness of intervention for these patients.

Source: Wake Forest University ([news](#) : [web](#))

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