How Are AFib and Kidney Problems Linked?

by BRENDA VANTA

Understanding the Link Between AFib and Kidney Disease

With contributions from Jeffrey R.

Is there a link between AFib and kidney problems? Yes, according to scientists. Exactly how these two conditions are related is not known, as the studies conducted so far have not found specific genes, pathways or biologic mechanisms that show a clear and understandable connection. However, the studies did reveal some fascinating facts:

- In the United States, more than 20 million people suffer from chronic kidney disease (CKD).
- A meta-analysis published in the May 2016 issue of New England Journal of Medicine established that having CKD corresponds to an increased risk of AFib.
- The rate of AFib for those individuals with CKD is two to three times greater than that seen in the general population.
- Prevalence of AFib in people with CKD is between seven and 18 percent depending on the type of measurement used in the study. The rate increases to 22-25 percent in people over the age of
- AFib occurs in 13 to 27 percent of individuals who undergo long-term dialysis.

Research

It is known that both the prevalence of AFib and CKD is increasing, having risen twofold worldwide over the last ten years. Furthermore, AFib increases your chances of developing CKD.

If an individual has AFib, their likelihood of also having CKD is 10 to 15%. Also, the opposite is also true – patients with CKD are more likely to develop AFib compared with people considered part of the healthy population.

These two conditions are also linked with stroke: CKD predisposes a person with AFib to develop stroke, both hemorrhagic and ischemic, as well as other types of major bleeds. Both CKD and AFib elevate a person's risk for the formation of blood clots.

- A 2013 study featured in the journal *Circulation* also found that the risk of kidney failure (the end stage of kidney disease) is more significant in those who have both CKD and AFib. This study evaluated over 200,000 participants with CKD for over five years. In this group, over 16,000 developed AFib, and those who died were 67 percent more likely to be diagnosed with kidney failure compared with those who had CKD without AFib.
- A study published in the *Journal of the American Heart Association* in 2012 demonstrated that more than 55,000 people with advanced stages of kidney disease experienced a 13 percent risk increase for developing AFib.

Risk Factor Management

People who have AFib paired with CKD have an increased risk for mortality compared with those who have only one of the conditions. If you have CKD, some of the factors that contribute to AFib occurring include:

- Advanced age
- COPD
- Coronary artery disease
- A reduction in the heart's ability to pump a normal amount of blood each contraction
- Heart failure
- High blood pressure
- History of a previous stroke or TIA
- Malnutrition
- Secondary hyperparathyroidism

One of the most problematic aspects of medical care if you have AFib and CKD is managing the risk of blood clot formation. CKD causes changes in physiologic function that result in changes to the normal flow of blood, which in turn increase the risk of clots and hemorrhaging.

Currently, there are no clear guidelines for managing this issue for people with AF and CKD. Researchers have yet to complete enough large randomized studies to assess the benefits of certain medications.

The *Journal of the American Society of Nephrology* published an article in 2008 that showed how individualized risk stratification could present the best method of treatment. The article goes on to provide an algorithm for blood thinner administration in patients with AFib and CKD using a type of evaluation tool called $CHADS_2$ to determine ischemic stroke risk.

With any medical condition, it's essential to work with your physician to control your risk factors. If you suffer from AFib, consider the tips on the next page for preventing CKD and its complications.

Next page: Tips on educating yourself about AFib and kidney problems, and much more.

Educate Yourself About AFib and Kidney Problems

Learn as much as possible about your kidneys. Understand the difference between CKD and kidney failure.

Search the Internet and read information from reliable sources such as WebMD and Mayo Clinic. Write down a list of specific questions about your kidneys and take it with you to your appointment with your doctor to help start a discussion to uncover the answers you seek.

In CKD, there is a permanent damage to your kidneys, but they still work enough to do their job of cleaning wastes and extra fluids from the body, controlling the blood pressure and various chemicals in the body, helping make red blood cells and keeping your bones healthy.

As the kidneys get more damaged, this condition progresses to kidney failure. As the name implies, the kidneys fail and can't work enough for you to live. Kidney failure is treated with dialysis or kidney transplant.

Take Care of Yourself

The best way to prevent CKD and kidney failure is to take care of your health and avoid the risk factors. There are two conditions that increase the risk of CKD that are even more common than AFib: diabetes and high blood pressure.

If you have been diagnosed with either or both, talk to your doctor and find out what you need to do to have them well controlled.

CKD can be assessed with urine testing and specific blood tests for eGFR (estimated glomerular filtration rate).

Check in With Your Doctor

Regular visits to your doctor are important, as your treatment may be adjusted over time.

Check your blood pressure and blood glucose levels at home, according to what your doctor recommends for you. Keep a logbook for both that you can bring along to your appointments.

If you do not have a GP, you should check if there are kidney screening clinics in your area or call 1.866.300.2900, which is a helpline where you can get information about kidney screenings where you live.

Pay Attention to Your Diet

You should avoid processed foods, and adopt a low fat, low salt diet. Smart choices will help you achieve and maintain a healthy weight as well as keep your cholesterol levels under control.

Follow heart-healthy guidelines that focus on eating lots of fresh and frozen fruits and vegetables. Consume lean cuts of meat and include fish at least twice a week.

If you have kidney disease, there are some dietary modifications you will need to make. Discuss these with a registered dietitian to ensure that what you're consuming isn't interfering with your kidney function or your medications.

Avoid smoking and drink coffee and alcohol in moderation.

Take Your Medications as Your Doctor Prescribes

Your medications are a vital part of your treatment plan. You should take them daily according to your doctor's instructions.

It's recommended to learn as much as possible about these drugs, so you understand what they are for and how they work. If your doctor prescribes anything new, find out first if they will cause any adverse reactions with the other medications you currently take.

If you have concerns about side effects, visit with your doctor and pharmacist. It's possible that there is an alternative drug that can replace the one that is causing adverse signs or symptoms.

Don't cease taking any of your medications unless your doctor gives you clearance to do so. If you have concerns that you are taking too many, or the dosage is too high, have that conversation before making any changes on your own.

Remember that your body often requires some time to adapt to a new medication, so allow several weeks for this to take place before deciding whether it's working as it should.

Be as Active as You Can

Along with diet, exercise can help your entire body to function better, and relax your mind. Try to incorporate physical activity into your routine every day.

The American Heart Association encourages 30 minutes of regular exercise five days a week.

Engaging in activities like walking, bicycling, jogging, swimming, and using a treadmill or rowing machine can improve cardiovascular endurance. Participating in strength training 2 to 3 days per week for each muscle group

will increase muscular strength and stamina.

Both types of exercise can reduce the workload on the heart and reduce strain on the kidneys.

For some people, leisure activities like gardening, yard work, or going for a walk with a friend can help reduce tension and anxiety.

Since AFib and CKD these can cause significant stress in your life, you may want to add other relaxation techniques such as deep breathing and meditation.

At this time, medical researchers continue to search for clues on the genetic links between AFib and kidney problems. Unfortunately, conclusive information is not available yet about how effective treatment of AFib will improve outcomes for individuals with CKD.