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Lower Your Blood Pressure Forever Without Having to Take So Much Medicine! Kidney Zapper (Symplicity® Catheter System) May Decrease Blood Pressure Over 30 points!
Michael Aaronson, MD

As a hypertension specialist who works closely with expert cardiologists in Omaha, Nebraska, I have received numerous questions regarding the availability of the new "kidney zapper" machine that permanently lowers blood pressure. All over the news last fall, the results of the kidney zapper studies in Europe suggested the device may lower the blood pressure of a hypertensive patient up to 33 millimeters of mercury (mm Hg) systolic (the top number) and 11 mm Hg diastolic (the bottom number). Given the interest of the public in this cutting edge technology, I wanted to take a moment to educate those interested in alternatives to increasing blood pressure medication. What is this blood pressure lowering device, and how does it work?

The "Kidney Zapper" is a blood pressure lowering machine. I don't like the moniker "Kidney Zapper" because the machine doesn't actually zap the kidneys. The machine enables an interventional cardiologist to use a specialized catheter to "break" the connection from the brain to the kidneys and subsequently lower a patient's blood pressure.

Briefly, electricity (in the form of radio frequency waves) is applied to the nerves of the kidneys so that the connection between the brain and the kidneys is permanently blocked. The result is that the kidneys do not raise the body's blood pressure in response to a request from the stimulated brain. On the contrary, the procedure actually lowers the blood pressure by a certain amount. The end result: a patient gets closer to his or her recommended blood pressure target without having to take as much medicine as before.

The brain sends signals to raise blood pressure by way of the body's nerves. The

kidneys receive the signals to raise the blood pressure and increase the blood pressure in the body. The Kidney Zapper works by permanently blocking the signals sent to the kidneys using electricity to "burn" the nerves so that they cannot transport signals. The result of the burn is a scar, so the procedure creates a permanent reduction in blood pressure. The fancy shmancy term for this process is called "renal denervation." Medtronic, the company that owns the technology, calls this machine the "Symplicity® Catheter System." I, however, prefer to call the machine the "Kidney Calmer."

Let's develop the concept in greater detail. The brain, when stressed, has the ability to increase the blood pressure in the body. Teleologically, this is a good thing, because if you are about to get mauled by a lion, you want to activate your fight or flight response and survive. These brain signals are sent by way of the nervous system to the kidneys. The kidneys play a major role in causing hypertension because they "hear" the message sent by the brain, ramp up the renin-angiotensin-aldosterone system, and raise the blood pressure.

The world has changed over time. We are now more at risk of dying from eating too many salt and processed foods than from being mauled by a lion. We are getting heavier as a population and obesity is prevalent. Accompanying this trend is an increase in the incidence and prevalence of hypertension. Hypertension is one of the top causes of kidney disease and the need for kidney dialysis. (Diabetes is the other main cause.) So if we can lower the blood pressure in a population, we will decrease the risk of kidney disease in that population as well.

Studies have shown that after the "Kidney Calmer" has zapped the kidney nerves, a patient's blood pressure on average decreases 30 points! But,

before we all get too excited about lowering your blood pressure 30 points without medicine, please consider the following: studies are currently underway in the United States which will determine FDA approval of the medical device. Unless FDA approval is achieved, the medical device will not be available for Americans. As many appreciate, FDA approval is a rigorous process that takes time. The Food and Drug Administration insists companies take one step at a time. Most likely, within the next few years, we will know if the Symplicity® Catheter System is an option for patients with resistant hypertension and adherence with their medication. At this juncture, it is currently unavailable for use in the United States.

I would suggest that if your patients are on three or more blood pressure medications, you recommend they see a hypertension specialist such as a kidney doctor (nephrologist). We kidney consultants get special training in high blood pressure management during fellowship as well as during our preparation for the maintenance of certification examination. It turns out that nephrologists are phenomenal at managing patients' blood pressure, helping them reach their target goals.

It is important to note that the process of renal denervation is irreversible and the procedure, given to the wrong candidate, could cause life threatening hypotension -- blood pressure that is too low.

FOR MORE INFORMATION
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