Primed the pump

Weakened mitral valves are common and treatable — but the heart surgeon and type of surgery chosen make a difference

The specialist: Dr. David Adams

As professor and chairman of the Department of Cardiothoracic Surgery at Mount Sinai, David Adams is a "superspecialist" in mitral-valve repair — 90% of his patients have mitral-valve disease, and he performs several hundred valve-repair surgeries a year.

Who's at risk?

Mitral-valve prolapse is an extremely common heart disorder that occurs when the valve between the heart's left chambers doesn't close properly. Doctors estimate that more than 2% of the adult American population is living with mitral-valve prolapse, and more than 100,000 people a year undergo surgery to repair or replace their valves.

The problem strikes all segments of the population, affecting both men and women as well as people from all ethnic and socioeconomic backgrounds. In fact, there's nothing you can do to prevent mitral-valve prolapse. "It's a sporadic disease," says Adams. "Doctors don't know for sure what causes it, but there's an undefined genetic predisposition."

The mitral valve makes sure oxygen-rich blood moves from your heart into the rest of the body. "The mitral valve has two leaflets," says Adams. Strings called chordae attach to the flap-like leaflets and hold them in place; when these strings break, the edges of the leaflets flop. "Then you develop a lesion called mitral-valve prolapse," says Adams. "And the prolapse allows some blood to be pumped back into your lungs as well as forward into the body."

Patients fall into two groups: younger people whose hearts adapt to their slowly degenerating valve, and older people who may have a cord snap spontaneously. The younger patients can start developing mitral-valve prolapse when they are in their 20s and 30s, and then live with it for 20 or 30 years before they have to do anything about it. The average age of surgery is between 45 and 60.

Signs and symptoms:

Many people with mitral-valve prolapse never show any symptoms of the disease. Usually, warning signs start to occur only when blood is leaking through the valve backward toward the lungs. The primary symptoms are arrhythmia (irregular heartbeat), dizziness, shortness of breath and fatigue. Many times, the problem is discovered when a doctor detects abnormal sounds, like clicking or a murmur, when listening to the patient's heart with a stethoscope.

Doctors can monitor how much your heart is dilating and the amount of leakage through your valve with an echocardiogram, a noninvasive ultrasound of the heart. "Once your heart starts to get a certain size, then they know that's the time to do surgery," says Adams. "The new guideline is that a lot of patients should go to surgery before they start showing symptoms."

Traditional treatment:

When mitral-valve prolapse is diagnosed, doctors will often start patients out on a regimen of blood-pressure drugs to help the blood vessels relax and keep the heart pumping more slowly and with less force. But once the heart starts to dilate as a result of degenerative mitral-valve disease, surgery is the only option.

Two surgical procedures are available: artificial valve replacement and valve repair. Artificial valve replacement removes your natural valve and inserts either a metal valve or an animal valve, while repair leaves your valve in place and works to reconstruct the damaged parts.

Each of the procedures has its own costs and benefits. Replacement is a much simpler surgery, routinely done in every hospital that performs heart surgery. But if you have a metal valve inserted, you'll have to be on blood thinner for the rest of your life to prevent clots from forming on the surface of the valve and causing strokes. "Those blood thinners translate into a 1%-2% risk per year of a stroke or a major bleeding event," says Adams. The problem with the animal-valve replacements, which are taken from cows and pigs, is that they calcify and wear out. "Within 15-20 years, you need a second operation," says Adams.

Mitral-valve repair is the more technically difficult surgery, but it has the best results by far: only 10% to 15% of patients need another operation, risk of stroke is halved, and studies show a 10% increase in life expectancy. Doctors have reached a consensus that mitral-valve repair is the best option for many patients, but 30% to 40% of patients are still getting valve replacements.

"This is one of the few heart diseases that there is a general consensus that people don't get the guideline therapy for intervention," says Adams.

Research breakthroughs:

"There is a widespread agreement among experts. We think the field needs to move toward a better definition of the complexity of your prolapse. And then [develop] a network of regional specialists."

In too many communities, no one specializes in mitral-valve repair. Adams points to the policy in the U.K., which may require any doctor who wants to perform mitral-valve repair to do at least 25 procedures a year, thus creating a new generation of superspecialist surgeons.

Questions for your doctor:

Once you're diagnosed with mitral-valve prolapse, ask your doctor, "How simple or complex is my prolapse?" If you have a simple prolapse, an experienced cardiac surgeon can probably fix that. If it's complex, you probably need to see a superspecialist.

Another good question is, "What are my chances of preserving my own valve by having a mitral-valve repair?" If the answer is less than 90%, you should see a superspecialist.

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