

[MUSIC PLAYING]

HECTOR I. MICHELENA: The bicuspid aortic valve condition is a very important issue to talk about because it affects 1% to 2% of the population. It is the most common congenital heart disease.

JUAN M. BOWEN: Most people will not have symptoms. They will not know that they have a bicuspid aortic valve. They also will not know that they are developing an aneurysm.

GABOR BAGAMERI: It's imagine like a balloon. It slowly starts putting more air into the balloon. The aorta gets enlarged. It doesn't cause you symptoms until something really bad happen.

As you put more air into the balloon, it gets thinner, higher tension. And just like the aorta, it grows, the wall gets weaker. And eventually, it can either rupture, or it can dissect, meaning that tear inside aortic wall, and the layers are separating. And then this becomes symptomatic.

JUAN M. BOWEN: People who are found to have a bicuspid aortic valve should know that this condition tends to run in families. Close relatives, such as siblings or children, have an increased risk of having a bicuspid aortic valve. They should be evaluated with an echocardiogram.

Currently, the threshold for preventive aortic repair is made primarily on aortic diameter. In the future, we anticipate that we will have other factors to consider. These may include aortic phenotype, valve phenotype, biomarkers, and other factors, such as age and sex.

The ultimate treatment for these aortic conditions involves surgery. And surgery may be needed for the valve disease, and it may be needed for repair of the aneurysm. And sometimes these are combined.

HECTOR I. MICHELENA: So you're going to have either a repair or a replacement.

GABOR BAGAMERI: The standard treatment was the replacement, and the options are when we are going to go in and we're going to cut the valve out, actually, and are going to implant the surgical valve. The option will be either it's a bioprosthesis or a mechanical valve. The bioprosthesis, it could be either a cow valve, pericardial valve, or a pig valve.

The benefit of the mechanical valve, there is no structural deterioration. Unfortunately, it comes with the price that you have to take blood thinner for the rest of the life. With the bioprosthetic valve, you don't have to be lifelong clotting or anticoagulation. But unfortunately, this bioprosthetic valve is going to degenerate and deteriorate over the time.

HECTOR I. MICHELENA: Sometimes the valve is dysfunctional, but you don't need to cut it away. You can actually repair that valve, such that the patient keeps their valve, which is a great thing, because you don't need many other medications, and you keep your own valve.

JUAN M. BOWEN: And in more recent years, the valve-sparing operation has been developed. And that is performed at the Mayo Clinic. And this is an operation where the person gets to keep their own aortic valve, and the surgeon implants a graft replacing the ascending aorta.

After patients have aortic surgery or other procedures, we communicate with the referring physician. With today's improved electronic medical records, we now have better communications with referring physicians. And then the follow-up plans are individualized. Some people can have all or most of their follow-up at home. And then some people will need to return to Mayo Clinic periodically.

HECTOR I. We have to maintain quality and safety. Which of the pioneering surgeons in the 1960s would have ever thought
MICHELENA: that we would be doing something like this, such that we are now able to offer aortic valve replacement. We can offer them more years of life and feel better.

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