REC Interv Cardiol. 2022;4(2):140-141
https://doi.org/10.24875/RECICE.M21000263

Debate: Severe bicuspid aortic valve stenosis in non-high-risk surgical patients. In favor of surgery

A debate: Estenosis aórtica grave bicúspide en el paciente sin riesgo elevado para cirugía. A favor de la cirugía

Jacobo Silva Guisasola*

Servicio de Cirugía Cardiaca, Hospital Universitario Central de Asturias, Oviedo, Spain

SEE RELATED CONTENT:
https://doi.org/10.24875/RECICE.M21000262

Question: What is the prevalence of bicuspid aortic valve in the population currently eligible for surgical aortic valve replacement?

Answer: The prevalence of bicuspid aortic valve is around 1% to 2% of the population. Somewhere between 27% and 35% of the population will eventually require surgery at the 20-year follow-up.[1] On the other hand, the associated dilatation of the ascending aorta, with conflicting results regarding its prevalence, stands at around 50% to 80%.[1] At our center, 30% of all aortic valve replacements or repairs—with or without replacement of the ascending aorta—are performed on the bicuspid aortic valve. Also, this is a group of predominantly male patients with a mean age of 55 years, and different clinical features compared to the aortic stenosis described in elderly patients. Many of these patients are repaired when regurgitation is predominant with excellent clinical outcomes.

Q.: What special considerations should be made with surgery when performed on the bicuspid aortic valve?

A.: There are 3 special considerations that should be observed. In the first place, this condition affects a group of younger patients. Also, these valves have severe calcification posing great technical difficulties regarding decalcification for correct implantation under direct vison. On many occasions, eventually, the ascending aorta needs to be replaced. According to the clinical practice guidelines from the European medical societies on cardiology and thoracic surgery, the ascending aorta needs to be replaced if it is longer than 45 mm in the presence of associated valve replacement. The indication for isolated aneurysm without valvular lesion is 50 mm in the presence of associated risk factors (arterial hypertension, past medical history of dissection or aortic syndrome).[2]

Q.: Do you think that severe aortic stenosis in the bicuspid aortic valve is an indication for surgery *per se* regardless of the surgical risk?

A.: I do for the reasons I already gave you on the special characteristics of this condition that, in most cases, require surgery. The main reason is that it affects younger patients in whom other therapeutic options have not been validate with 10+year follow-ups. Other less important reasons are severe calcification, repair possibilities in the presence of double valvular lesion, and quite often, the need to replace the ascending aorta.

Q.: In your opinion, which are the cases of severe bicuspid aortic stenosis clearly eligible for surgery and which are ineligible?

A.: In principle, preferably, all cases should be treated surgically. Other options can be considered only in patients in whom surgery is contraindicated, although the evidence available on this matter is still weak. Studies on transcatheter aortic valve implantation include elderly patients with aortic stenosis. According to the European clinical practice guidelines, patients over 75 with comorbidities can be treated percutaneously. However, the severe associated calcification, and lack of scientific evidence should always be taken into consideration.[3]

FUNDING

None.

* **Corresponding author:** Hospital Universitario Central de Asturias, Avda. de Roma s/n, 33011 Oviedo, Asturias, Spain.
E-mail address: jsilva8252@yahoo.es (J. Silva Guisasola).

Online: 31-01-2022.

CONFLICTS OF INTEREST

None whatsoever.

REFERENCES

1. Detaint D, Michelena HI, Nkomo VT, Vahanian A, Jondeau G, Sarano ME. Aortic dilatation patterns and rates in adults with bicuspid aortic valves: a comparative study with Marfan syndrome and degenerative aortopathy. *Heart.* 2014;100:126-134.
2. Erbel R, Aboyans V, Boileau C, et al. 2014 ESC Guidelines on the diagnosis and treatment of aortic diseases: Document covering acute and chronic aortic diseases of the thoracic and abdominal aorta of the adult. The Task Force for the Diagnosis and Treatment of Aortic Diseases of the European Society of Cardiology (ESC). ESC Committee for Practice Guidelines. *Eur Heart J.* 2014;35:2873-2926.
3. Vahanian A, Beyersdorf F, Praz F, et al. 2021 ESC/EACTS Guidelines for the management of valvular heart disease. ESC/EACTS Scientific Document Group; ESC Scientific Document Group. *Eur Heart J.* 2022;43:561-632.