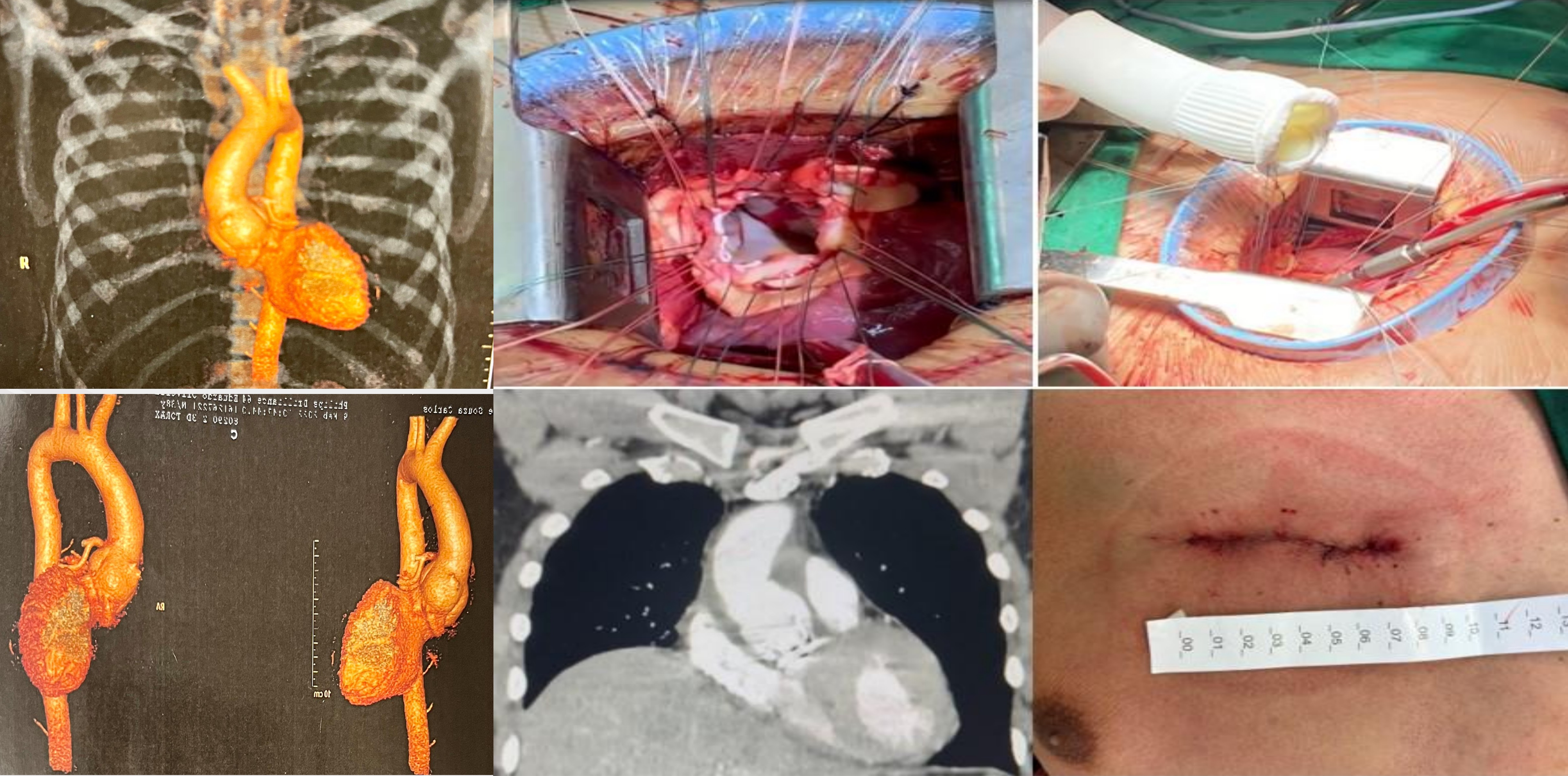




Minimally Invasive Modified Bentall De Bonno Procedure By Right Anterior Minithoracotomy In Young Man With Device Konect Resilia®

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BACKGROUND: Bicuspid aortic valve (BAV) is the most common congenital heart condition, affecting 2% of the general population. BAV is a clinically mixed disorder with a high rate of surgically relevant aortic valve and ascending aortic complications, which occur in over 35% of those affected. BAV may degenerate early and the valve may become narrowed or leaky. More than 99% of aortic root aneurysm and valve replacements are performed through traditional open-heart surgery. It requires making a 10-12 inch vertical incision and splitting the breastbone to access the heart, replace the patient’s own heart valve, and mend the aneurysm. The operation is typically followed by an ICU stay and eight to 12 weeks of recovery.

METHODS: C.E.O.S, 39 years old, male, carried bicuspid valve with important insufficiency, aortic root aneurysm (53 millimeters), functional class II, important left ventricular dilatation (74/48 mm, EF 63%, bicuspid valve with important insufficiency), submitted minimally invasive Bentall de Bonno “button technique” modified procedure by right anterior minithoracotomy with implant device Konect Resilia® number 29, CEC time 150 minutes, aortic clamp time 120 minutes, surgery time 300 minutes.

RESULTS: Patient was extubated in room surgery, no use inotropic drugs, no blood transfusion, ICU time 60 hours, hospital discharge 5º postoperative day. Echocardiography post-operative showed decreased left ventricular diameters, maintenance ejection fraction, and low gradients by biological prosthesis and aortic biological tube. The patient returns professional, and physics activities precariously.

CONCLUSIONS: The correction of root aortic aneurysm and aortic valve replacement with technique Bentall e de Bono modified “button technique” with device Konect Resilia® through minimally invasive cardiac surgery by right anterior minithoracotomy is feasible and reproducible with benefits intrinsic about minimally invasive cardiac surgeries. A right anterior minithoracotomy is a surgical approach that can be an excellent alternative to a median sternotomy in selected patients.

1. Yan TD. Mini-bentall procedure: the "French cuff" technique. *Ann Thorac Surg.* 2016;101(2):780-2. doi:10.1016/j.athoracsur.2015.06.092

2. Kulacoglu UK & Kaya M - Ministernotomy in Aortic Root and Arch Surgery: Early Outcomes *Braz J Cardiovasc Surg* 2023;38(1):15-21

3. Johnson CA Jr, Siordia JA, Robinson DA, Knight PA. Right mini-thoracotomy Bentall with traditional and automated suturing devices. *Multimed Man Cardiothorac Surg.* 2018 May 18;2018. doi: 10.1510/mmcts.2018.025. PMID: 29781589.

4. LaPietra A, Santana O, Pineda AM, Mihos CG, Lamelas J. Outcomes of Aortic Valve and Concomitant Ascending Aorta Replacement Performed via a Minimally Invasive Right Thoracotomy Approach. *Innovations.* 2014;9(5):339-342.

5. Lamelas J, LaPietra A. Right Minithoracotomy Approach for Replacement of the Ascending Aorta, Hemiarch, and Aortic Valve. *Innovations.* 2016;11(4):301-304.

6. DeRoo SC, Desai N, Grimm JC, Cannon B, Bavaria JE. In-Human Implantation of a Novel Biologic Valved Conduit for Aortic Root Replacement. *Ann Thorac Surg.* 2022 Jan;113(1):e21-e24.