Pseudoaneurysm of ascending aorta: Post-operative complication

Pseudoaneurisma de aorta ascendente: complicación posquirúrgica

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Surgery of the ascending aorta (AA), with the use of tubular prostheses (with the Bentall-De Bono technique since the seventies), has been an alternative for patients with disorders such as annuloaortic ectasia and type A aortic dissection, associated or not with Marfan syndrome. However, it is a procedure with high mortality risks, mainly attributed to late complications, both inherent to the technique and secondary to the procedure (infections or due to diseases of the primitive aorta connective tissue), especially at points where prostheses are connected¹.

We present the case of a 57-year-old male patient admitted to our hospital through the imaging unit of the cardiology section due to echocardiographic findings. In his personal history, two AA surgeries stood out, in 2008 (without surgical complications, with Bentall-De Bono technique) and later in 2017 due to severe aortic insufficiency, with Bentall-DE Bono technique, which had post-operative complications with surgical wound infection, dehiscence, and hematoma; on the 6th day after the procedure, he developed fever, with positive blood cultures for *Staphylococcus epidermidis*, which was treated according to the antibiogram, with good initial evolution. However, on the 18th post-operative

day, he presented again with dehiscence of the surgical wound and sternum, which required using the VAC system; control blood cultures were negative. Surgical cleaning and sternal resuture with wound closure were also performed. Intravenous vancomycin was prescribed for 6 weeks and rifampicin 600 mg daily, without complications. Despite this, at 1 month, he was admitted again due to spontaneous hematoma of the surgical wound, with drainage and empirical antibiotic therapy with quinolones being required.

On the current admission, bilateral crackles, jugular engorgement, and pandiastolic murmur were observed on physical examination. Transesophageal echocardiogram showed the left and right ventricle at upper limits of normal, both with preserved contractility; prosthetic tube was visualized in AA as well as aortic mechanical prosthesis with normal gradients but with severe periprosthetic regurgitation (70 ms hemipressure time, 12 mm contracted vein) (Fig. 1A and B). In the posterior region, at the supra-avalvular level, an image of dilatation was observed between the wall of the prosthetic tube and the native aorta, with systolic expansion (arrows, Fig. 1C and D). Consequently, an aortic computed

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Figure 1. A and B: Severe periprosthetic regurgitation (hemipressure time 70 ms, contracted vein, 12 mm); C and D: In the posterior region, at supravulvar level, an image of dilatation is observed between the wall of the prosthetic tube and the native aorta, with systolic expansion (arrows).

Figure 2. Computed tomography: Large aorta root adjacent collection of 92 mm × 73 mm × 100 mm, with loss of planes with prosthetic tube on its right lateral side and extensive communication with aortic lumen, consistent with large mediastinal hematoma secondary to prosthetic rupture. A: Post-surgical pseudoaneurysm secondary to prosthetic rupture (arrows); B: Post-operative control.

tomography (CT) was performed, which revealed a large aortic root adjacent collection of 92 mm × 73 mm × 100 mm, with loss of planes with prosthetic tube on its right lateral side and extensive communication with aortic lumen, which was consistent with large

mediastinal hematoma secondary to prosthetic rupture. With the diagnosis of post-surgical pseudoaneurysm secondary to prosthetic rupture being established by imaging (arrows, Fig. 2A), the patient underwent surgical intervention using the Bentall-De Bono technique

and was discharged without complications to this day (control post-operative CT, [Fig. 2B](#))^{2,3}.

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Conflicts of interest

None.

Ethical disclosures

Protection of people and animals. The authors declare that no experiments have been carried out on humans or animals for this research.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

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References

1. Valenzuela García LF, Gallego García de Vinuesa P, Guerrero de Mier M, Beltrán J, Arají O, Barquero Aroca JM. Pseudoaneurisma como complicación de la reconstrucción de aorta ascendente mediante injerto valvulado: dehiscencia perianular simulando una insuficiencia aórtica severa. *Rev Esp Cardiol.* 1999;52:737-40.
2. Gutiérrez Sánchez JA. Cirugía de la aorta ascendente suprasinusal. *Cir Cardiov.* 2007;14(4):311-9.
3. Lindefjeld D, Martínez A, Heusser F, Zalaquett R. Cierre percutáneo de pseudoaneurisma post-operatorio de aorta ascendente con dispositivo Amplatzer. *Rev Chil Cardiol.* 2012;31:63-6.