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CAROTID BODY TUMOR: THE IMPORTANCE OF PREOPERATIVE EMBOLIZATION

ABSTRACT

Carotid body tumors (paragangliomas) are highly vascularized, sporadic, and generally benign neoplasms originating in the carotid body chemoreceptors. We present the clinical case of a 65-year-old female patient, referred for asymptomatic right cervical enlargement, with a preoperative study performed with cervical Doppler ultrasound and angiotomography, compatible with a carotid body tumor. It was resolved surgically after embolization of the tumor by complete resection with minimal bleeding and preservation of neighboring cranial nerves. Biopsy reported a carotid body paraganglioma.

Keywords: carotid body, tumor, embolization.

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INTRODUCTION

Carotid body tumors are formed by cells that are part of the extra-adrenal paraganglionic system. They are also known as carotid body ganglioglioma or chemodectoma¹. Until a few years ago, treatment was surgical without embolization in large series². Nowadays, once the diagnosis is established, preoperative embolization is recommended to facilitate surgical dissection, reduce bleeding, and avoid injury to adjacent cranial nerves since they are highly vascularized³.

The aim of this presentation is to report a clinical case of this pathology treated by preoperative embolization.

CLINICAL CASE

A 65-year-old female patient consulted for an asymptomatic right cervical mass. The Doppler

ultrasound study and angiotomography confirmed the diagnosis of a carotid body tumor located at the level of the carotid bifurcation, which separates both internal and external carotid arteries with anterior displacement (*Figure 1*). Given its great vascularization, it was decided to embolize it preoperatively (*Figures 2 to 4*).

The following day, the operation was performed by right lateral cervicotomy, where, thanks to the embolization, it was possible to remove the tumor without complications such as bleeding or injury to adjacent nerves, especially the greater hypoglossal nerve, which was located above the tumor (*Figure 5*).

The patient presented good evolution and was discharged early, without complications. The biopsy revealed a paraganglioma (*Figure 6*).



FIGURE 1. Angiotomography reveals an image compatible with a carotid body tumor.



FIGURE 2. Angiography with 3D reconstruction reveals a carotid body tumor fed by a hypertrophic pharyngeal branch.



FIGURE 3. First phase of tumor embolization.

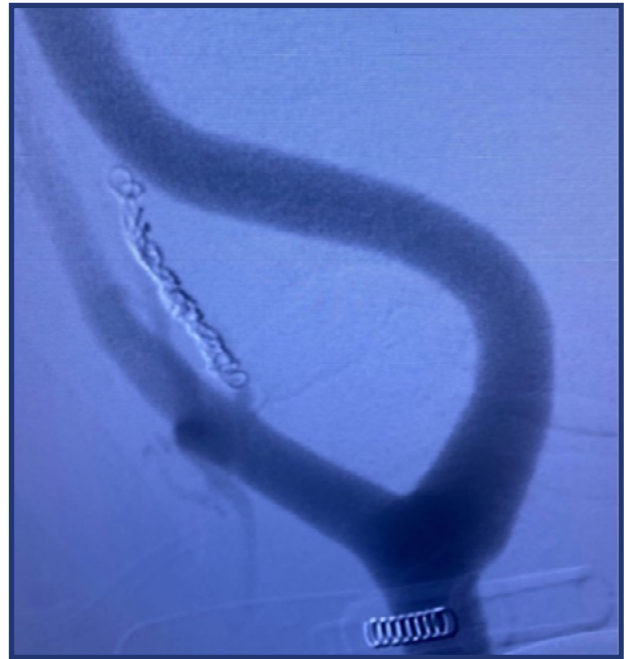


FIGURE 4. Tumor embolization ending.

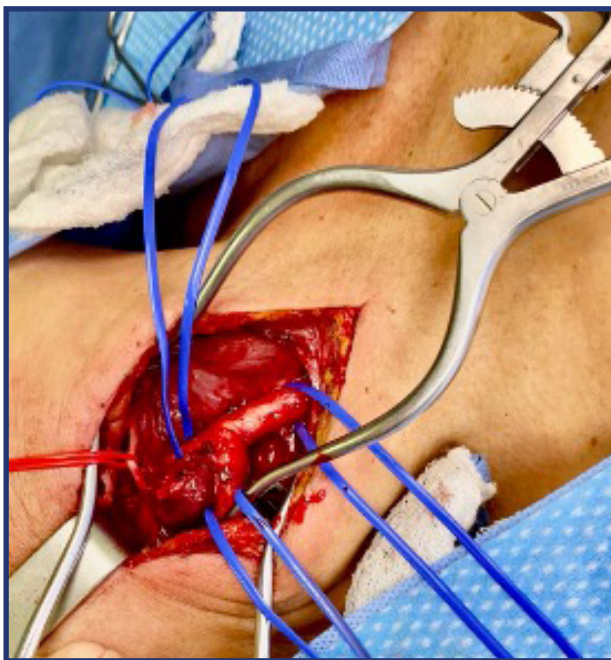


FIGURE 5. Tumor excision.



FIGURE 6. Surgical specimen of the tumor.

DISCUSSION

Currently, preoperative embolization³ is widely accepted to minimize the difficulties associated with carotid tumor resection, including bleeding and preservation of neighboring cranial nerves. However, the need to place covered stents to protect the carotid arteries has also been raised, and even when sacrifice of the internal carotid is unavoidable, bypass or replacement with internal saphenous artery has been performed^{4,5}. In our case, the tumor did not compromise the vessel walls, and thanks to selective

embolization, it was possible to remove it in good condition and without complications.

In conclusion, it is essential to attempt embolization by expert personnel to avoid possible complications secondary to the embolization itself and then to remove the tumor.

Declarations

The authors declare no conflict of interest.

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FALSE ANASTOMOTIC FEMORAL ANEURYSM ASSOCIATED WITH MULTI-ANEURYSMAL DISEASE

ABSTRACT

Anastomotic pseudoaneurysms and true femoral aneurysms are two infrequent arterial entities of low incidence, and together, they are even less common. We present the case of a 71-year-old patient with a history of arterial hypertension who has a history of multiple long-standing vascular interventions: abdominal aortic aneurysm with aortic-iliac anastomosis with subsequent femoral-femoral bypass crossed by occlusion of the left branch; and femoropopliteal bypass for left popliteal artery aneurysm. She presents a large pulsatile mass in the left inguino-femoral region without left popliteal and pedal pulses with the viable limbs. The tomographic study showed a pseudoaneurysm of the left common femoral artery with partial thrombosis, dependent on the distal anastomosis of the old femoral-femoral bridge, and a bilateral true fusiform aneurysm of the common and superficial femoral artery with extensive mural thrombosis. It was decided to perform surgery to resect the mixed aneurysmal lesions, perform a right iliac-femoral prosthetic bridge, and replace the crossed femoral-femoral bypass; both included shunts to the deep femoral arteries. With suspicion of thrombosis of the old femoropopliteal bypass, thromboembolectomy of the left leg is performed through the superficial femoral artery, the anastomosis is permeabilized with recovery of the distal pulses.

Keywords: pseudoaneurysm, femoral artery, aneurysm, anastomosis, vascular surgery.

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INTRODUCTION

An anastomotic pseudoaneurysm is a pulsatile hematoma produced at the rupture of the anastomosis between the vessel and the prosthesis, contained by the perivascular tissues¹, associated with vascular manipulation, generally aorto-iliac-femoral. It is a rare entity and is considered a long-term postoperative complication of the range of procedures of the structures above. True femoral artery aneurysms, also infrequent, can be classified into two types: type I, when there is involvement of the common femoral artery up to its bifurcation, and type II, with involvement beyond the origin of the deep femoral artery². We present the case of a patient with an anastomotic femoral pseudoaneurysm on bilateral type II true aneurysmal disease, which required surgical management due to the large size of the lesions.

CLINICAL CASE

A 71-year-old male patient with arterial hypertension consults for a painful pulsatile mass sensation in the left

inguinofemoral region (*Figure 1A*). He has a history of abdominal aortic aneurysm 14 years ago, repaired with aorto-biliac anastomosis and reintervened for acute ischemia of the left lower limb due to occlusion of the iliac branch, performing femoral-femoral cross bridge; and, left popliteal artery aneurysm two years ago, repaired with a femoropopliteal bypass with autologous greater saphenous graft. Popliteal and left pedal pulses, with a viable limb, were absent on physical examination. Arterial Doppler ultrasound of the lower limbs showed a partially thrombosed pseudoaneurysm of the left common femoral artery, dependent on the distal anastomosis of the femoral-femoral bypass (*Figure 1B*).

Angiotomography was requested, which revealed a pseudoaneurysm of the left common femoral artery (*Figure 2A*) with thrombosed content adjacent to the bypass anastomosis and a fusiform aneurysm of the bilateral common and superficial femoral artery (*Figure 2B*) with extensive eccentric mural thrombosis and involvement of the origin of the deep femoral arteries (*Figure 3*).

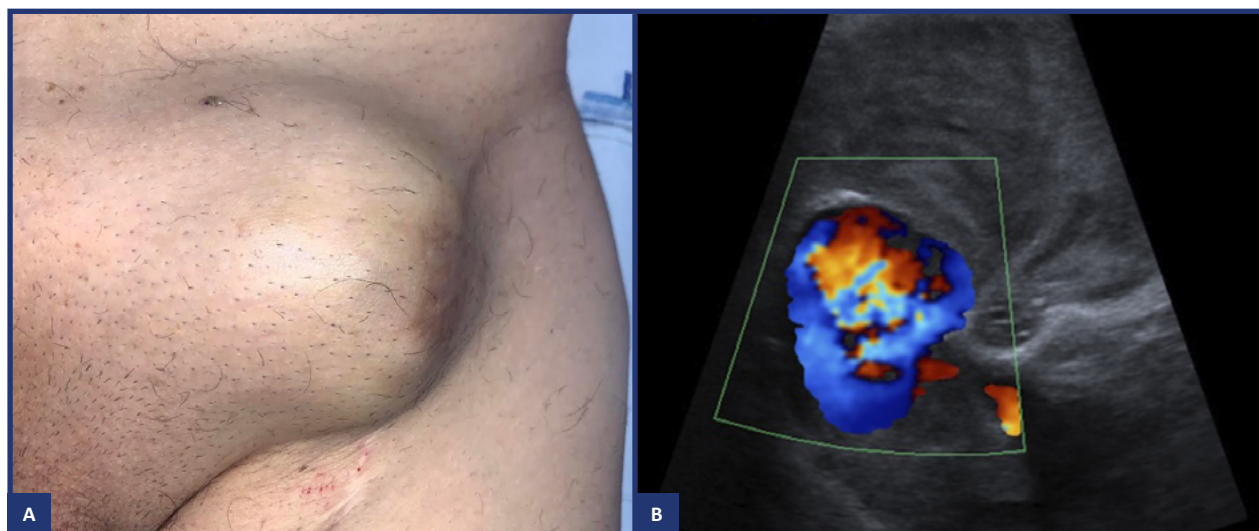


FIGURE 1. Left common femoral pseudoaneurysm, mass (A), and echo-Doppler (B).

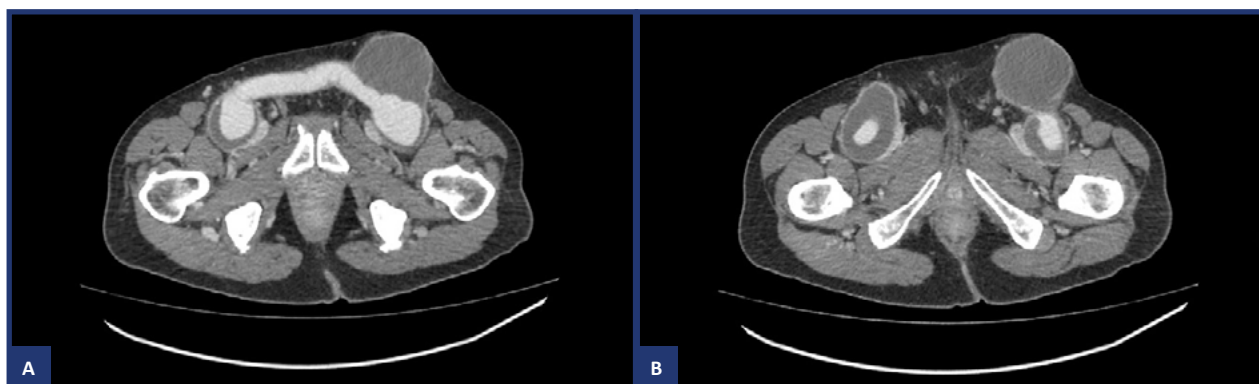


FIGURE 2. Angiotomography of the abdomen. A. Old crossed femoral-femoral bypass. B. Giant right common femoral aneurysm.

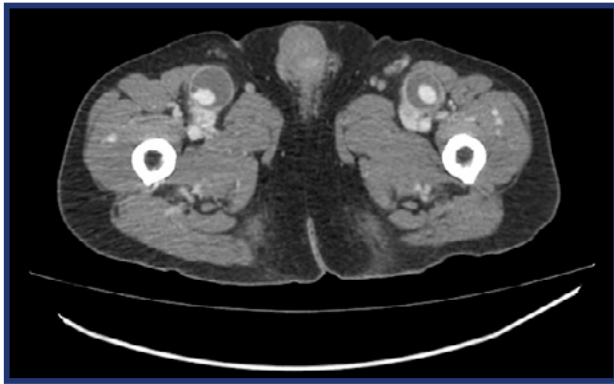


FIGURE 3. Angiotomography showing bilateral superficial femoral artery aneurysms with mural thrombosis.

After the findings, it was decided to take the patient to surgery due to the high risk of rupture of the lesions. A four-way approach was performed: bilateral “golf club” incisions in the iliac fossae and bilateral longitudinal inguino-femoral incisions. Inferiorly, a giant aneurysm of the right femoral artery is identified, and superiorly (iliac fossa), the right external iliac artery is clamped and sectioned.

The femoral aneurysm is incised, the chronic thrombus is removed, and deep femoral bleeding is controlled with Fogarty No. 5[°]; the 10 mm Dacron Hemashield[®] prosthesis is tunneled, and proximal and distal end-to-end anastomosis is performed with Prolene 4-0[°]; a superficial iliac-femoral bridge is

configured, and the deep femoral artery is bypassed with an 8 mm prosthesis (Figure 4).

The 10 mm lateral-terminal prosthesis (Figure 5) is anastomosed to the right iliac-femoral prosthesis to configure the new crossed femoral-femoral bridge and tunneled to the interior of the old bypass. Through the left inguino-femoral route, the large false aneurysm is incised, with thrombus resection and controlling the deep femoral bleeding with Fogarty. Given the suspicion of aneurysm embolism, thromboembolectomy is performed through the left superficial femoral artery to the foot for permeabilization of the femoropopliteal bypass. An anastomosis of the contralateral origin prosthesis is made to the superficial femoral artery (Figure 6A) and bypassed to the deep femoral artery (Figure 6B). A Doppler ultrasound was performed, where good flow was observed in both lower limbs, with recovery of the popliteal and left pedal pulses, which were absent before the intervention. In the postoperative period, the patient had a right pneumothorax and required a thoracostomy; in the control paraclinical studies, severe anemia was observed with hemoglobin of 7.2 g/dL, so two units of packed red blood cells were transfused. He underwent antibiotic prophylaxis, and given the clinical improvement, he was discharged from the hospital on the twelfth postoperative day, with orders for outpatient follow-up.

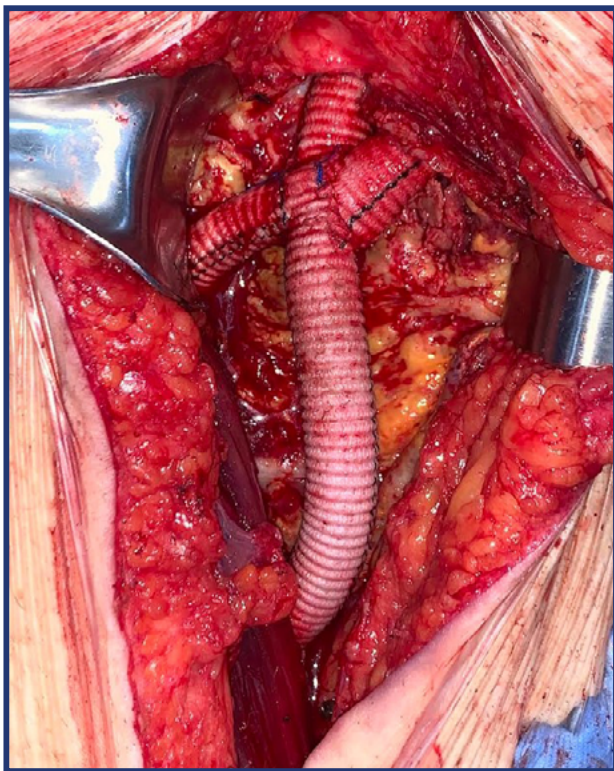


FIGURE 4. Right superficial iliac-femoral bridge with two derivations: to the deep femoral artery (left) and to the crossed femoral-femoral bridge (right).

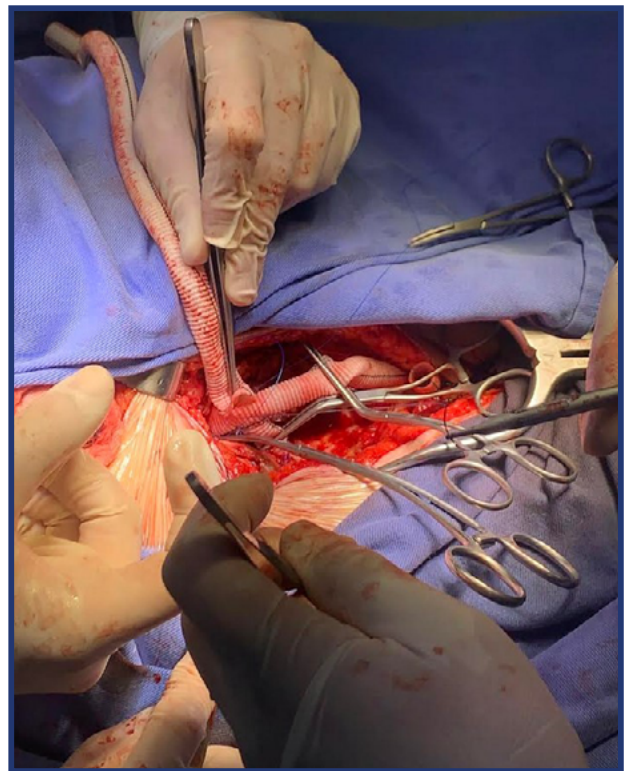


FIGURE 5. Proximal anastomosis of the new femoral-femoral bridge.

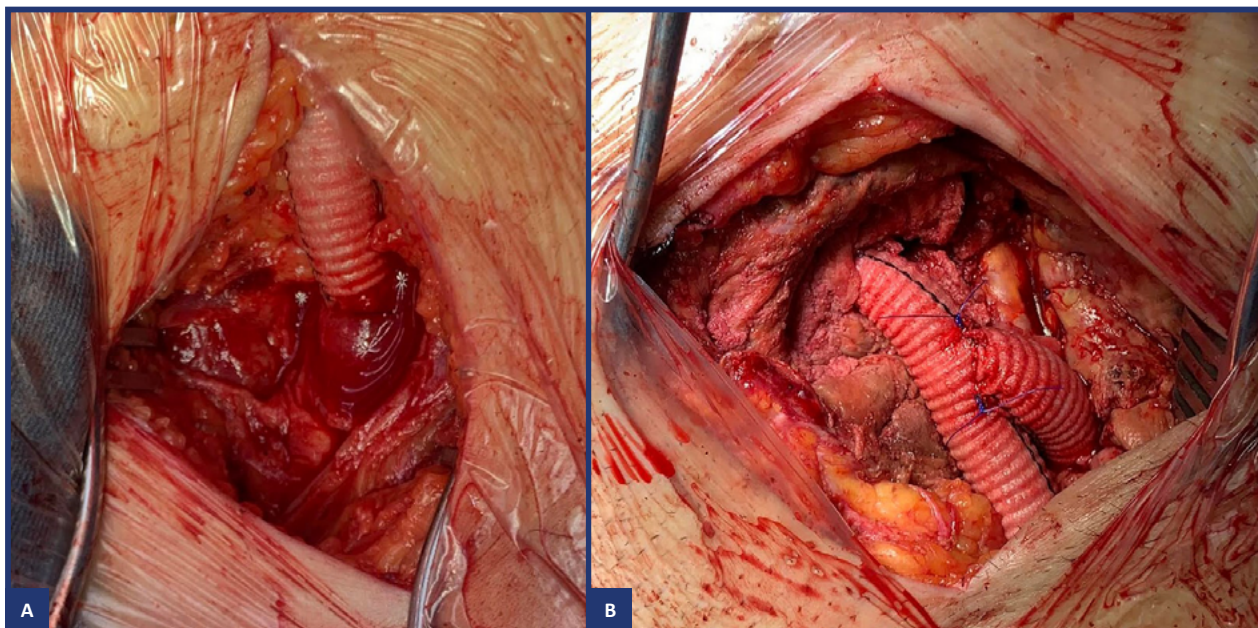


FIGURE 6. Distal anastomosis of the superficial femoral bypass (A) and left deep femoral bypass (B).

DISCUSSION

Anastomotic pseudoaneurysms are considered a late complication of arterial bypasses³, generally of aorto-iliac-femoral reconstructions with an incidence of approximately 1-24%⁴. The causes may be inappropriate technique, material fatigue, or trauma³. Their occurrence is related to gender, prosthetic material, and time of evolution¹. Most of these pseudoaneurysms appear after arterial reconstruction. The incidence may depend on the strength of the anastomosis and the bonding of the prosthetic material, along with the integration of the suture; this not only causes possible wear on the materials but also loss of structural integrity that degenerates the vessel and the resulting fibrosis causes decreased elasticity and circulatory stress response mechanisms⁵. Independent processes of local degeneration, such as atherosclerosis or excessive mobilization in previous procedures, as is often the case in femoral artery anastomoses, also increase the risk of pseudoaneurysms^{5,6}.

Pseudoaneurysms are subject to the same complications as a true aneurysm, such as cutaneous necrosis, progressive growth, rupture, and distal embolisms¹. This patient presented embolisms with an exacerbated risk of limb involvement due to having the anastomotic pseudoaneurysm, as well as the extensive true aneurysmal and atherosclerotic lesions in the iliac-femoral tract. True femoral aneurysms are another infrequent clinical problem, which, as in this case, usually occur bilaterally⁷ associated with other episodes of aneurysmal disease, 40-70% with

aortoiliac aneurysms and 54% with popliteal artery aneurysms⁸, both present in the history for this patient. The most common cause is weakness and wasting of the artery due to atherosclerosis, and its rarest presentation is type II, where the origin of the deep femoral artery is involved⁹.

Because of those above, it is noteworthy that this patient had two infrequent peripheral arterial entities that respond to forms of vascular deterioration and damage, and that, together, increase the risk of thrombosis and exacerbation of this to cause regional and paranastomotic pathology. The crossed femoral-femoral bypass was advantageous in this case since it avoids the aortic approach in high-risk patients, offers acceptable long-term patency results, and constitutes an alternative in managing unilateral occlusions¹⁰.

RESULTS

A patient who consulted for a mass of clear vascular origin, where, given multiple antecedents of aneurysmal disease and open vascular intervention, the paraclinical and physical evaluation were essential in the anatomical characterization and dependence of mixed aneurysmal lesions (false and true), depending on the extra-anatomical bridge due to the unilateral iliac occlusion that she presented.

The patient underwent surgery, where a large anastomotic pseudoaneurysm of the left common femoral artery was resected, and the extensive bilateral true iliac-femoral aneurysmal lesions were replaced with prosthetic grafts, with preservation of the crossed femoral-femoral bypass technique given the history of

complete occlusion of the left common iliac branch. A right superficial iliac-femoral bridge was performed with a prosthesis with a deep femoral bypass and a right-to-left crossed femoral-femoral bridge with a left deep femoral bypass. Given the absence of popliteal and left pedal pulses preoperatively, a thromboembolectomy was performed through the superficial femoral artery, and the thrombosis with probable origin in the femoral pseudoaneurysm was removed, with repermeabilization of the old femoropopliteal bypass that the patient had, and recovery of the distal pulses. The patient presented pneumothorax, resolved with thoracotomy, and severe anemia requiring transfusion. After complying with antibiotic prophylaxis, he was discharged from the hospital in good clinical condition on the twelfth postoperative day.

CONCLUSIONS

An anastomotic pseudoaneurysm is a late complication of low incidence that can occur after prosthetic vascular manipulation. The femoral-femoral crossover bypass is the most appropriate therapeutic option for partial or total occlusions of unilateral iliac origin. For this reason, it is necessary to preserve it in managing these mixed aneurysmal lesions, which generate both the risk of pseudoaneurysmal rupture and of producing distal embolisms that compromise old bypasses and, therefore, the irrigation of the limb.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

Ethical considerations

The patient gave written informed consent for the publication of this article.

SURGICAL IMPLANTATION OF TRANSCATHETER BALLOON EXPANDABLE PROSTHESIS IN MITRAL POSITION: A CASE WITH SEVERE CALCIFIED MITRAL ANNULUS

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ABSTRACT

We present the case of a female patient with mitral valve disease with severe stenosis and moderate insufficiency but with a calcified mitral annulus that compromised the anterior leaflet and mitral valve apparatus and multiple comorbidities. An inverted balloon expandable bioprosthesis was implanted in the mitral position without complications. The patient was discharged on the fifth postoperative day. The clinical and echocardiographic control performed one month later was satisfactory.

Keywords: mitral annulus, annular calcification, prosthesis.

INTRODUCTION

Calcification of the mitral annulus (CAM) is a chronic degenerative process. When severe, it is usually accompanied by stenosis and mitral insufficiency. Although its frequency has been low in past decades, it has been increasing given the larger elderly population in society, the use of radiotherapy, and arterial hypertension.

The therapeutic offer for severe ASC is minimal; surgery implies a very high risk of surgical mortality and morbidity and mortality. The intense calcification of the mitral apparatus and the distorted geometry of the left ventricle limit therapeutic options with transcatheter and minimally invasive surgery. When severe stenosis is present, and the patient is not a candidate for percutaneous valvuloplasty, they are usually excluded from a surgical or transcatheter procedure.

CLINICAL CASE

A 78-year-old female patient, 1.45 cm tall and weighing 43 kg, with a history of insulin-requiring diabetes and non-dialytic renal failure, was admitted to the emergency service with dyspnea in functional class IV and mitral valve disease with severe stenosis and moderate insufficiency. The echocardiogram confirms the diagnosis and shows that the mitral annulus and subvalvular apparatus are very calcified, with an ejection fraction of 54% and a left ventricular diastolic diameter of 56 mm. Cardiac angiotomography showed a calcified mitral annulus, which compromised 80% of the mitral perimeter and the subvalvular apparatus. The 32 mm high sclerocalcified anterior leaflet (*Figure 1*) and the left ventricular outflow tract with a diameter of 20 mm were also observed. The mean mitral transvalvular gradient is 14 mmHg, with a pulmonary artery systolic pressure of 45 mmHg. A cine-coronary angiography was performed, which showed no evidence of coronary artery disease, and left dominance was observed. The case was presented in a clinical-surgical session, and it was decided that mitral valve surgery should be performed. Given the high surgical risk, with Euro score II of 14.72% and STS score of 13.9%, the dense subvalvular calcification, the anterior leaflet's height, and the outflow tract's diameter, the transcatheter approach was not considered.

TECHNIQUE

A median sternotomy was performed, with aortic arterial cannulation and venous cannulation in the caval veins, isolated by umbilical tapes. After achieving adequate anticoagulation, extracorporeal

circulation was started, with aortic clamping and administration of cardioplegia via antegrade route (Custodiol™, 2 liters). In cardiac arrest, we performed a left atriotomy parallel to Soondergard's groove, atrial, mitral, and mitral subvalvular exploration. We positioned silk sutures 1 to 5 clockwise and fixed them to the pericardium for better mitral exposure. We exposed the anterior leaflet and performed a partial section of the anterior leaflet, trying to leave a circumferential foramen without touching the mitral annulus. We also resected the first-order chordae tendineae of the residual anterior and posterior leaflet; we did not resect the calcified abutment. We performed mitral residual foramen sizing with Edwards Perimount Magna Ease mitral valve tester™ 25 mm and, under direct vision, implantation of an Edwards Sapiens 3 balloon-expandable prosthesis™ (size 23), mounted in reverse, with nominal volume (*Figures 2 and 3*). After the saline leak test, there was no perivalvular leak. We performed left atriorrhaphy, and extracorporeal circulation was suspended. The clamping time was 45 minutes; the extracorporeal circulation time was 53 minutes.

The patient evolved favorably and was discharged on postoperative day 6 without complications. One month later, she did not present dyspnea in the clinical control and ambulated freely. Echocardiographic control showed an ejection fraction of 65%, normofunctional valve prosthesis without a periprosthetic leak, and a mean transprosthetic gradient of 3.4 mmHg.

DISCUSSION

Calcification of the mitral annulus is mainly characterized by annular calcification with greater or lesser involvement of the leaflets and chordae tendineae. Its etiology still needs to be fully understood. However, it is known to have a chronic evolution, where calcium phosphate deposits are triggered by hormonal and inflammatory processes, chronic kidney disease, and bone degeneration, among other factors¹. This pathology has a high surgical morbimortality when surgical intervention is required due to mitral stenosis or insufficiency. In the Framingham study, an incidence of 8.5% was found in post-mortem studies and 2.8% in echocardiographic studies^{2,3}. In 30% of patients with mitral disease and indication for intervention, the transcatheter option becomes vitally essential; in this scenario, four possibilities arise: implantation on the native mitral bioprosthesis, prosthetic ring and ring, and the calcified mitral ring. In the United States, in 2019, of the total 1120 procedures performed, 75%

were valve-on-valve (ViV), 15% on prosthetic mitral ring (ViRing), and 10% were on CAM⁴.

The preoperative assessment of these patients is of great importance because, when correctly performed, it allows us to choose the best possible

therapy. The study of multimodal imaging with particular emphasis on three-dimensional tomographic reconstruction would enable us to simulate both transcatheter and hybrid procedures and even minimally invasive surgical techniques^{5,6}.

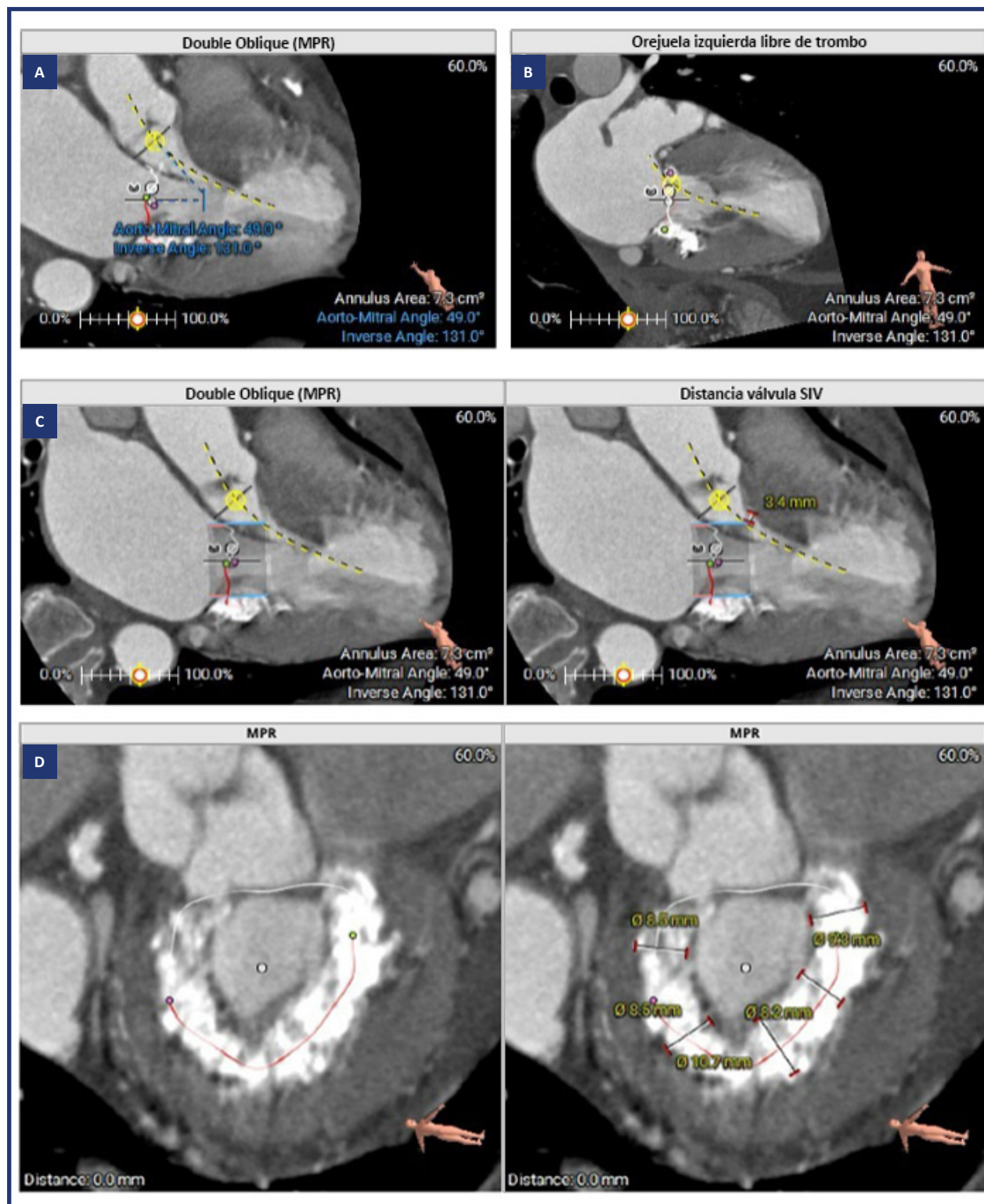


FIGURE 1. Contrast tomography reconstructed in multiple planes. **A.** Parallel to the left ventricular outflow tract. **B.** Relationship with the left atrial appendage. **C.** Mitro-aortic relationship and veloseptal-ventricular distance. **D.** Reconstruction of the mitral annulus (calcification of 80%).

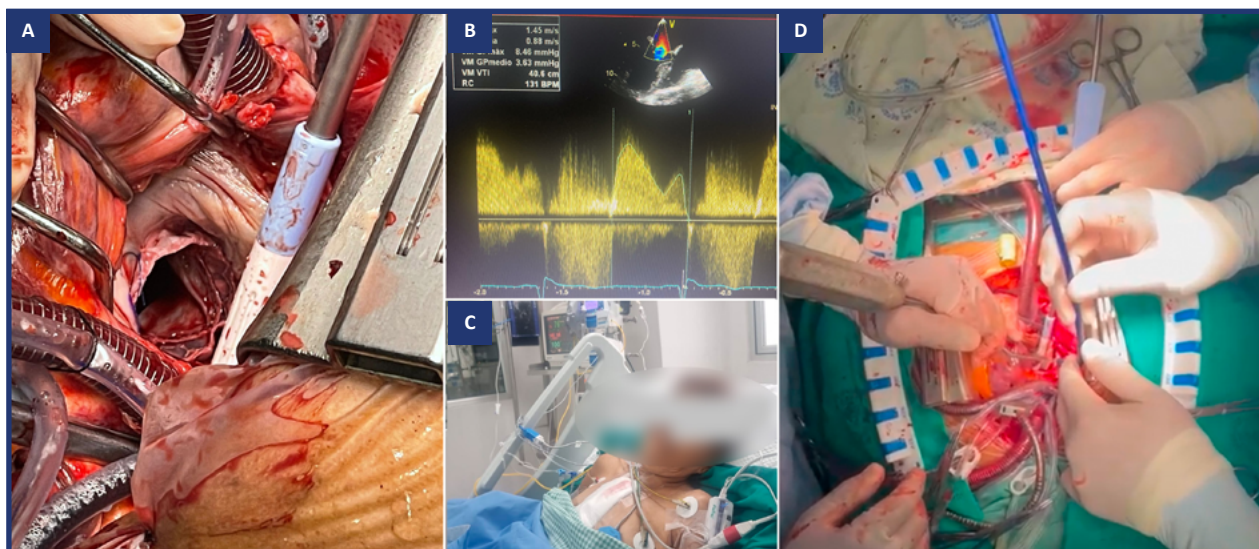


FIGURE 2. A. Balloon expandable valve already implanted. B. Residual trans-prosthetic gradient. C. Patient in the first hour after surgery (early recovery technique or fast track). D. Balloon valve implantation maneuver expandable balloon valve.

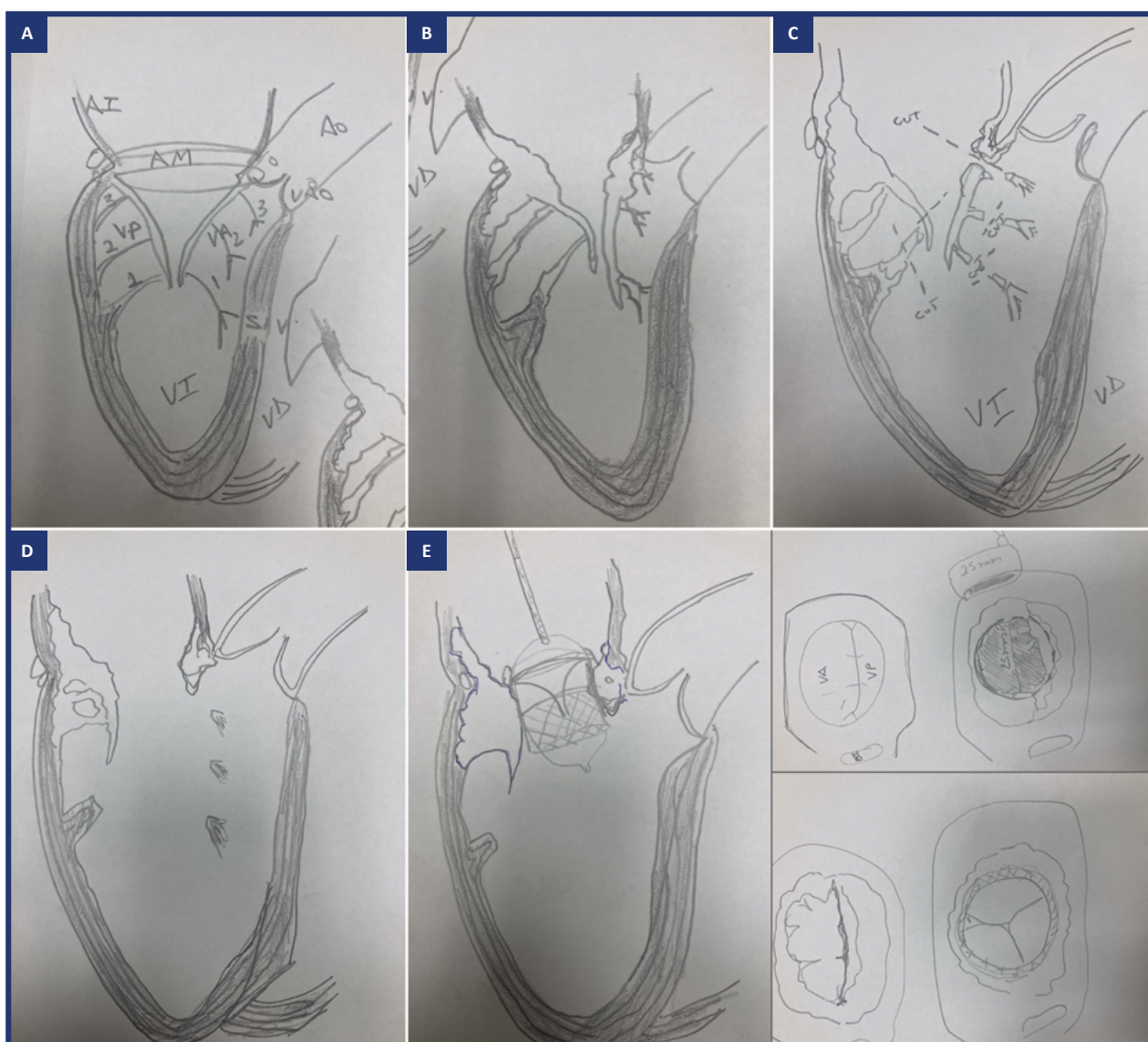


FIGURE 3. A. Relationship of mitral leaflets, chordae, and left ventricular outflow tract. B. Mitral-aortic relationship in a calcified mitral annulus. C. Partial resection of anterior mitral leaflet and first-order chordae in the fixed posterior leaflet. D. Mitral-aortic relationship after resection of the anterior mitral leaflet. E. Balloon expandable prosthesis implantation via the atrial route surgical.

CONCLUSION

In the case of the patient presented here, with severe stenosis with moderate insufficiency and calcification of at least 80% of the mitral annulus, leaflets, chordae, and papillary muscle, the possibility of offering a percutaneous transcatheter solution was considered. However, after considering that the long anterior leaflet (35 mm) was calcified, the left ventricular outflow tract measured 25 mm, and there was an intense fusion of first and second-order chordae, even with calcification of the papillary apex, the surgical approach by median sternotomy was chosen since it offered the possibility of controlled resection of the anterior leaflet and release of the subvalvular fusion of chordae tendineae.

Declarations

The authors declare no conflict of interest.

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TRANSAXILLARY APPROACH FOR RESECTION OF FIBROELASTOMA OF THE AORTIC VALVE: A MINIMALLY INVASIVE STRATEGY

ABSTRACT

We describe the case of a 78-year-old female patient with a history of anticoagulated atrial fibrillation and overweight, admitted for resection of a fibroelastoma of the aortic valve using a minimally invasive right transaxillary approach.

Keywords: *fibroelastoma, transaxillary approach, aortic valve.*

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INTRODUCTION

Fibroelastomas are the second most common primary cardiac tumor in adults¹. Approximately 30% of patients with papillary fibroelastomas are asymptomatic and diagnosed incidentally. Elective surgery is recommended to avoid embolic events. We present the case of a patient with resection of an aortic valvular fibroelastoma using a minimally invasive transaxillary approach.

CLINICAL CASE

A 78-year-old female patient with a history of anticoagulated atrial fibrillation, overweight, and a former smoker was admitted electively for resection of an aortic valve fibroelastoma. The tumor was diagnosed incidentally through a transesophageal echocardiogram (TEE), which revealed an echogenic image of well-defined borders, mobile, sized 0.7 cm x 1.7 cm, associated with the left coronary leaflet, compatible with a pedunculated fibroelastoma. The left ventricular function was preserved, and there were no signs of aortic valve insufficiency.

RIGHT TRANSAXILLARY MINI-INVASIVE ACCESS

Before performing this approach, it is essential to perform a chest computed tomography scan with contrast to visualize the aortic valve plane, which should be in a 45-degree orientation, and to draw

a line over the intercostal space (ICS) in which it is best located, which is almost always the third.

To ensure adequate support, the patient was positioned with the right upper limb elevated in a position similar to that of a "javelin thrower" (*Figure 1A*). The patient was positioned as close to the stretcher's edge as possible, and support was used to elevate the right hemithorax. External defibrillation templates were placed as part of the standard protocol for patients undergoing minimally invasive surgery.

Lines were drawn over the anterior axillary line and the third right ICS (*Figure 1B*). The intersection point was used as a reference for a vertical incision hidden under the arm for a better esthetic result.

A 4-cm mini-thoracotomy was performed in the third ICS. For transaxillary miniinvasive aortic valve surgery, no additional ports for trocars or chambers were required, except for the initial placement of a right pleural drainage tube connected to the carbon dioxide. Long instruments for mini-invasive surgery (Geister™) and long knotters were used. Long arterial and venous cannulae (Edwards™ or Medtronic™) were introduced through a minimal incision (3 to 4 mm) into the femoral artery and vein, with a TEE-guided and controlled position. This step is crucial, and we should not continue until the cannulae's correct positioning is ensured.

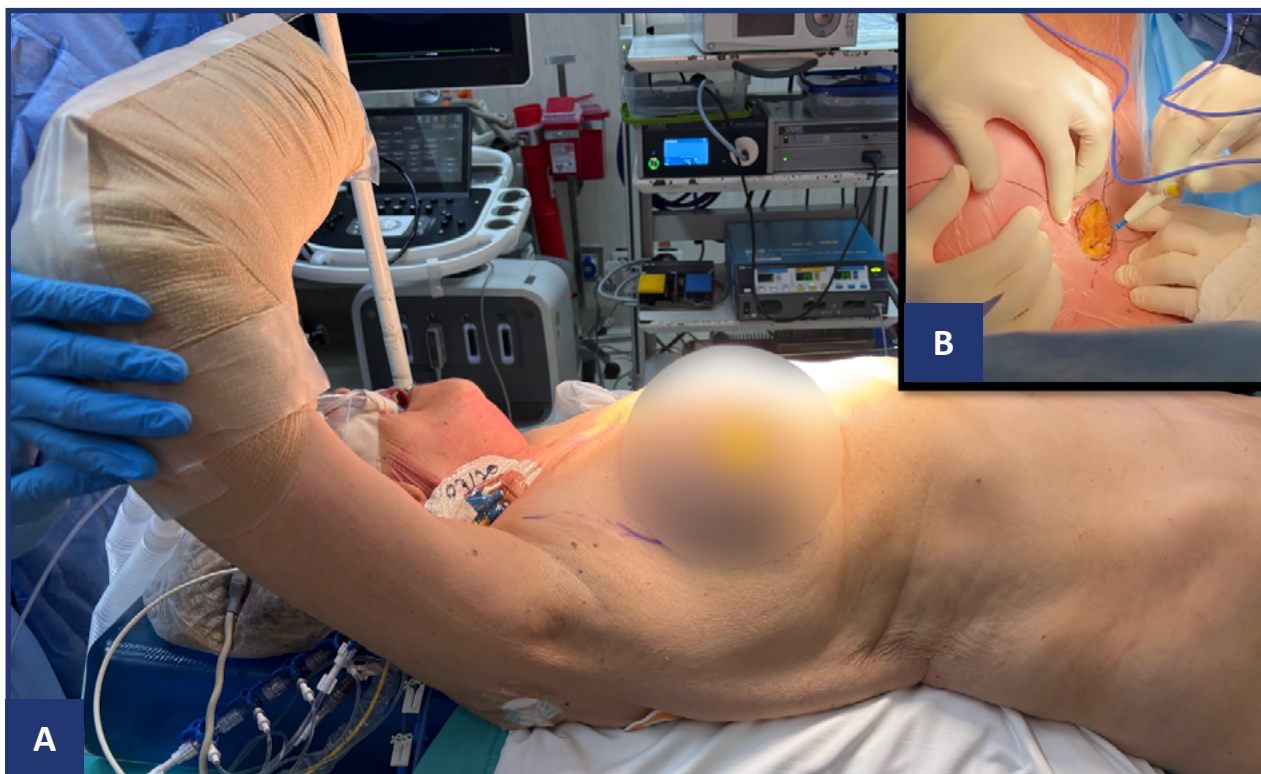


FIGURE 1. A. Positioning in "javelin thrower". **B.** Point of intersection between the anterior axillary line and the right-third intercostal space.

Bretschneider™ cardioplegia was used in a single dose of 2000 ml, although a Del Nido™ solution could be considered. Once the necessary flow was achieved and ventilation was deactivated, the thoracic cavity was entered with a mini-invasive intercostal retractor and an Alexis-type tissue retractor, and the pericardium was opened as far away as possible from the phrenic nerve. Approximately six traction points were placed radially. The intercostal retractor could be removed, and the aorta, right atrium, and right superior pulmonary vein should be adequately visualized (*Figures 2A and 2B*). A traction point was used to ensure that the right atrial appendage did not hinder visualization. The right atrium must be empty for correct visualization. The rigging was started over the right superior pulmonary vein to place the left ventricular aspirator, and proper positioning was corroborated with TEE (advice: do not advance until these last two points are resolved). Laterally, a long aspiration needle was placed over the ascending aorta to ensure its control. A hinged aortic clamp was used; it is essential to consider the pulmonary artery and the left atrial appendage when positioning it to avoid complications (there may be lesions during clamping that are only noticed when the clamp is removed, which may require conversion to complete sternotomy). During the initiation of cardioplegia, it is recommended to stop for a moment and verify with TEE that there is no leak through the clamp to ensure complete clamping.

A transverse aortotomy was performed below the sinotubular junction, with traction points in the aorta as usual. The fibroelastoma implanted in the left coronary leaflet was observed and resected with shaving technique without difficulty (*Figure 2C*). The aorta was then closed with a double 4.0 polypropylene suture (before removing the clamp, epicardial pacemakers are placed in the right ventricle; otherwise, it will be difficult to position them correctly with the heart distended). The clamp was removed and continued in extracorporeal circulation; perfusion was reduced until the pump was stopped. After confirming with TEE the absence of fibroelastoma and bubbles in the heart, extracorporeal circulation was briefly restarted to remove the suction cannula from the left ventricle and add another point of hemostasis. After securing hemostasis, decannulation, and plane closure continued. For postoperative pain control, an intercostal catheter placed below the serratus muscle plane was used for continuous infusion of bupivacaine for the first 24 to 48 hours to improve postoperative comfort and reduce the need for analgesics and opioids (*Figure 2D*).

The patient had a favorable postoperative course, was immediately extubated, ambulated on the second day, and was discharged from the hospital on the fifth day after reaching the necessary anticoagulation range due to her atrial fibrillation.

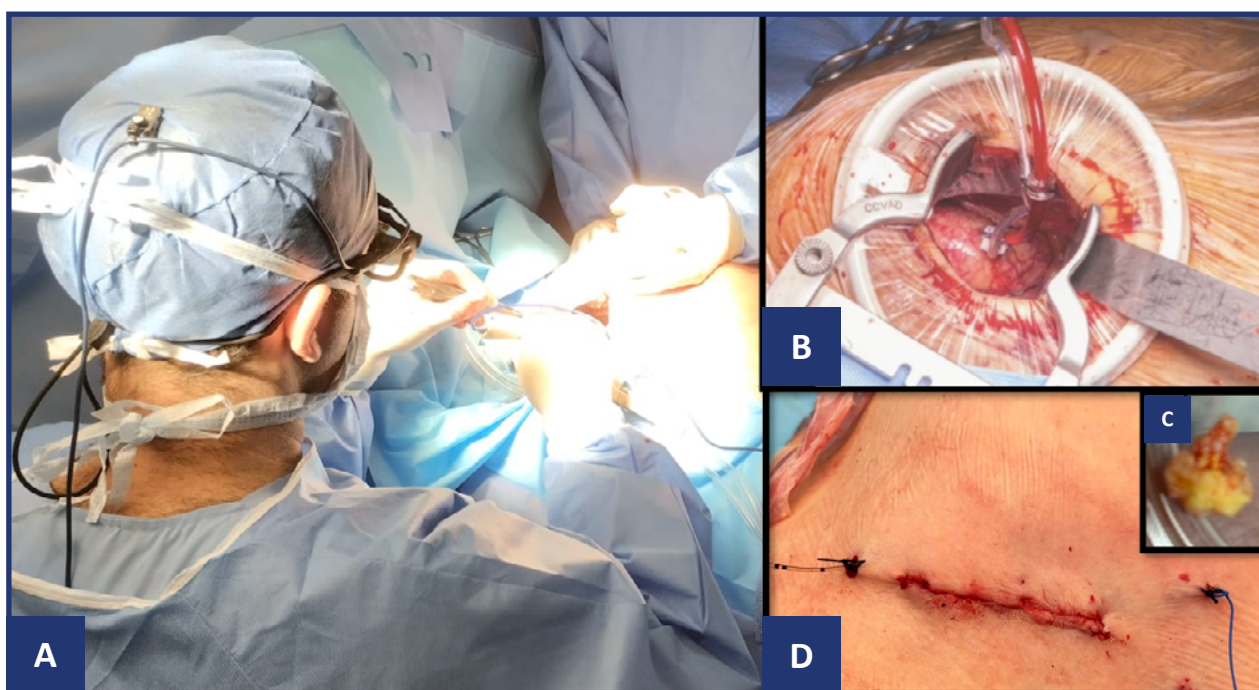


FIGURE 2. A. Surgeon's position. B. Set-up with intercostal and tissue retractor; direct visualization of the aorta. C. Resected fibroelastoma. D. Final scar with the arm still raised; intercostal analgesia catheter at the cephalic level and epicardial pacemaker lead at the caudal level can be seen.

COMMENTS AND DISCUSSION

Resection of aortic valvular fibroelastosis is recommended in patients who have suffered embolic events or complications related to tumor mobility (such as occlusion of the coronary ostium), as well as in patients with highly mobile or large tumors (≥ 1 cm)¹⁻³. To date, there are no national publications on the resection of this tumor using a minimally invasive transaxillary approach. This technique is reproducible and suitable for treating aortic valve pathology. By avoiding sternotomy, patients have a more favorable postoperative period, with less trauma, less risk of infection, and better aesthetic results since the only visible scar is in the axilla.

Declarations

The authors declare no conflict of interest.

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