The recipient was extubated at 5 days after the transplant, and the bronchial and vascular anastomoses appeared to exhibit no kinking and obstruction (Figure 2, C and D). The recipient was discharged from the hospital without oxygen inhalation.

The implanted middle lobe remained clear on chest radiography and computed tomography 1 year after the transplant (Figure 1, B and D). The values for the ratio of Pao₂ to inspired oxygen fraction before transplant and 1 year after the transplant were 127 and 384, respectively. Percentage of forced expiratory volume in 1 second values for the donor before and 3 months after the donor operation were 136% and 103%, respectively. The donor and the recipient have been enjoying their healthy lives after the transplant.

DISCUSSION

Middle lobes from adult living donors could contribute to saving small pediatric patients. Limitations of this procedure are as follows: (1) The donor middle lobe should have single arterial, venous, and bronchial branches.

Otherwise, the requirement of patch repair may increase the potential surgical risks of the donor operation. (2) An additional contralateral lung transplant may be required as the recipient grows.

Living donor lingula or segmental lung transplant might be an alternative strategy.

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Mycotic aortic aneurysm in a child with aortic coarctation

Bradley LeNoir, MD, MBA, Walter F. DeNino, MD, Scott M. Bradley, MD, and Minoo N. Kavarana, MD, Charleston, SC

Mycotic aneurysm is a rare sequela of aortic coarctation, seen both before and after repair. Mycotic aneurysm is precipitated by aortic endarteritis, and patients may present with a nonspecific constellation of symptoms.¹ We present a case of simultaneous surgical repair of aortic coarctation and mycotic aneurysm.

CASE SUMMARY

A 10-year-old boy was referred to a rheumatologist after 3 months of intermittent fevers and a bilateral, painful rash of

the legs and feet. C-reactive protein level and erythrocyte sedimentation rate were elevated. He was hypertensive, with diminished femoral pulses and an arm-leg blood pressure gradient of 40 mm Hg. An echocardiogram revealed an aortic coarctation. Computed tomographic angiography of the aorta confirmed coarctation and additionally revealed a 22-mm pseudoaneurysm distal to the coarctation (Figure 1). The patient was expeditiously taken to the operating room for aortic coarctation and aneurysm repair. With left heart bypass (left atrial appendage and descending thoracic aorta cannulation), multiple collaterals were controlled or ligated. A large, thin-walled saccular aneurysm distal to the coarctation was identified (Figure 2). The aneurysm and coarctation were excised en bloc distal to the left subclavian artery. The left subclavian artery was ligated distally and was turned down as a flap and tubularized with an aortic homograft for repair of the resultant defect. The patient tolerated the procedure without complication. The crossclamp time was 90 minutes, and the total cardiopulmonary bypass time was 105 minutes. Intraoperative cultures were positive for pansensitive *Streptococcus mitis*. The patient was started

From the Division of Cardiothoracic Surgery, Medical University of South Carolina, Charleston, SC.

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Address for reprints: Minoo N. Kavarana, MD, Medical University of South Carolina, Pediatric Cardiac Surgery, CSB 424, 96 Jonathan Lucas St, Charleston, SC 29425 (E-mail: kavarana@musc.edu).

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FIGURE 1. Computed tomographic angiography demonstrating aortic coarctation and pseudoaneurysm (arrow). LSCA, Left subclavian artery.

on a regimen of ampicillin in the hospital and discharged home 6 days later with 1 month of intravenous ceftriaxone. At 3-month follow-up, he is normotensive and doing well without any signs of infection.

DISCUSSION

Unlike aortic coarctation, which has a “classic” presentation, mycotic aortic aneurysms have a more insidious onset. Patients may present with nonspecific symptoms or no symptoms at all.²⁻⁵ In the case of our patient, a rheumatologic disease was suspected, whereas in fact the

constellation of symptoms was most likely caused by a combination of the coarctation and the subsequent aneurysm showering septic emboli.

In treating a mycotic aneurysm, surgery is often indicated; however, no guidelines exist regarding its timing. The benefit of avoiding rupture versus the risk of potentially seeding prosthetic material complicates the decision to operate.² Unquestionably, patients in unstable condition should proceed to the operating room immediately. In our case, the decision to operate urgently was made to avoid rupture.

Some centers, however, advocate antibiotic treatment before surgical repair to limit infectious complications.^{2,3} With a wide range of causative organisms,⁴ antibiotic therapy is often guided by institutional protocols.^{2,3,5}

Multiple options exist for aortic repair in the setting of aortic aneurysm, including the use of homograft,² or synthetic material,^{3,5} primary excision and repair,³ and endovascular stent-grafting. Because of its infrequency, there are no specific guidelines for mycotic aneurysm management; each case needs to be considered individually and will likely be influenced by the skill set of the surgeon. In our case, combined subclavian flap turndown and homograft were used to repair the defect, limiting risk of subsequent infectious sequelae to the greatest extent possible while maximizing growth potential.

CONCLUSIONS

No recommended treatment strategy exists for mycotic aneurysm in the setting of aortic coarctation. Because of the risk of catastrophic rupture, repair must be undertaken expeditiously and by whatever method carries the most experience and comfort for the operating surgeon. When rupture is not imminent, however, the risks must be

FIGURE 2. Intraoperative photograph of aortic coarctation and mycotic aneurysm, with the ligated ligamentum at the tip of the electrocautery. Black arrow indicates mycotic aneurysm; white arrow indicates coarctation.

balanced among various surgical approaches and infectious complications and the maximization of growth potential.

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Giant, pedunculated right atrial thrombus formation after surgical atrial septal defect repair

Sayqa Arif, MRCP,^a Dincer Aktuerk, MRCS,^a and David J. Barron, FRCS,^b Birmingham, United Kingdom

Despite advances in percutaneous catheter-based interventions, surgical repair with direct suture or a patch is still required for large secundum and other types of atrial septal defect (ASD), with excellent results and a low mortality.¹ Although rare, thrombotic complications secondary to atrial thrombus formation after surgical ASD repair have been previously reported.²⁻⁴ There is, however, no consensus regarding the optimal postoperative antiplatelet or anticoagulation regimen. We report a case of a giant right atrial (RA) mass unrelated to the ASD patch. A review of the literature and the clinical management of postoperative atrial thrombi are discussed.

CLINICAL SUMMARY

A 20-year-old man came to the hospital with palpitations and breathlessness. Results of clinical examination were unremarkable. Initial investigations, including an electrocardiogram and a chest radiograph, demonstrated no abnormalities. Eleven months previously, the patient had undergone primary surgical repair of a large secundum ASD with a bovine pericardial patch. The patient was advised to take low-dose (75 mg once daily) aspirin for 6 months after that operation. Transthoracic echocardiographic scans

performed before hospital discharge and at 3-month routine clinical review revealed no evidence of residual leak and no significant cardiac abnormality.

On admission, transthoracic echocardiography demonstrated a large, spherical, pedunculated mass in the RA, the etiology of which was uncertain. Transesophageal echocardiography (Figure 1) confirmed a mobile mass attached to the anterior aspect of the superior vena cava at its entrance into the RA. The mass was highly mobile, suspended by a thin, linear attachment, and prolapsing into the tricuspid valve (Figure 1, A). Because of the size of the mass and the fact it was freely mobile, emergency surgery was performed. Intraoperative findings revealed a large spherical 6-cm mass arising from a thin, fibrous stalk attached to the lateral wall of the RA at the junction of the superior vena cava and the RA (Figure 2). The pedicle was not related to the septum or the ASD patch. Histologic evaluation of the mass revealed a bland ball thrombus, with no evidence of neoplasia. It was postulated that the original nidus for the thrombus was the tip of the central venous cannula inserted at the time of the original surgery, which allowed gradual, concentric layering of thrombus with time. A thrombophilia screen was undertaken and demonstrated no evidence of hypercoagulability. The patient made an uneventful recovery and received anticoagulation with warfarin for 6 months. Follow-up at 3 months after the removal of the mass demonstrated no evidence of intracardiac thrombus recurrence. Further transthoracic echocardiographic follow-up is planned in 6 months and annually thereafter.

DISCUSSION

Postoperative intra-atrial thrombus after surgical ASD closure has been observed as late as 8 years after the original

From the University Hospital Birmingham NHS Trust,^a Birmingham, United Kingdom; and the Birmingham Children's Hospital,^b Birmingham, United Kingdom.

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Address for reprints: Sayqa Arif, MRCP, Department of Cardiothoracic Surgery, University Hospital Birmingham NHS Trust, Mindelsohn Way, Edgbaston, Birmingham B15 2TH, United Kingdom (E-mail: sayqa.arif@uhb.nhs.uk).

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