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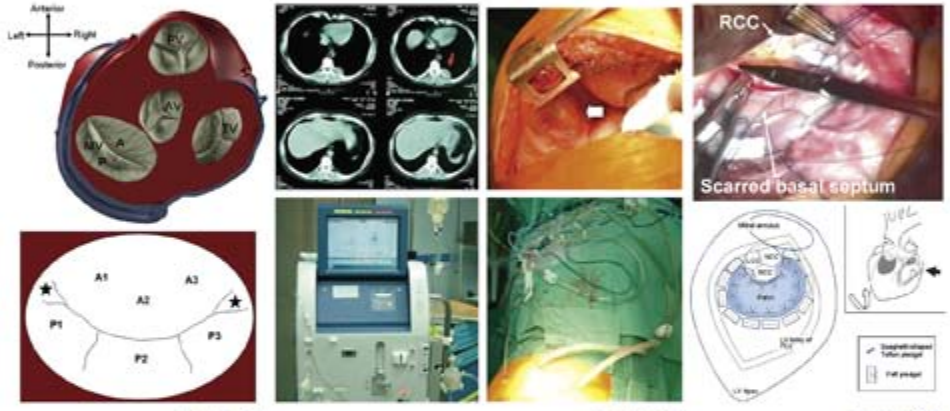

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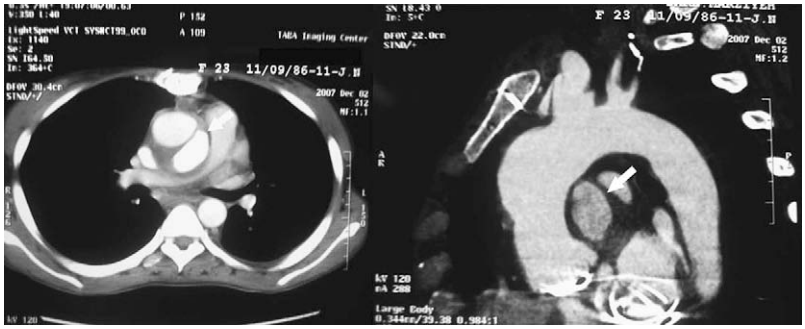

FIGURE 1. Computed tomographic (CT) scan showing the retroaortic mass *(white arrow)* with the mass effect on the pulmonary artery and aorta. No connection between the mass and aorta is identifiable.

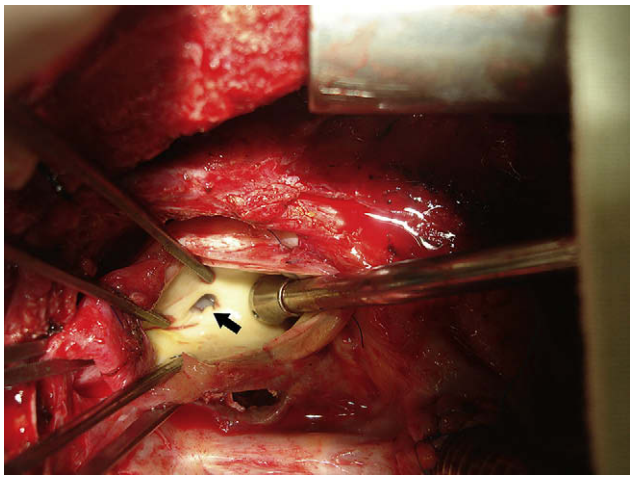

FIGURE 2. Intraoperative image showing a well-defined 4-mm hole in the posterior wall of the aorta *(arrow)*. No sign of inflammation or necrosis is detectable.

In conclusion, we describe a case of ascending aortic pseudoaneurysm on the posterior wall of the aorta most probably caused by the tip of the cardioplegia cannula. It is recommended that extra precautions be taken while the tip of the cannula is being placed and that the aortic wall be inspected carefully before the aortotomy incision is closed.

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Dual left ventricular restorations in a patient with cardiac sarcoidosis

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Video clip is available online.

Surgical ventricular restoration (SVR) remains a challenge in cases of idiopathic dilated cardiomyopathy. It is even more challenging when multiple ventricular segments are affected and located near the base of the left ventricle (LV). Here, we report a case wherein dual SVRs were performed

successfully in a patient with cardiac sarcoidosis with complete atrioventricular (AV) block and dyskinesis of the basal septum and inferior wall. The method involved endoventricular patch plasty through a lateral ventriculotomy for partial left ventriculectomy (PLV).

CLINICAL SUMMARY

A 62-year-old woman was referred to our hospital because of worsening dyspnea and deteriorating hemodynamics in New York Heart Association (NYHA) class IV. Her symptoms were refractory to diuretic therapy. She had had a permanent pacemaker implanted because of complete AV block 10 years earlier. She received a diagnosis of sarcoidosis with transbronchial lung biopsy 8 years earlier, and since then she was receiving 5 mg of predonisone to control the inflammation. A chest radiograph showed pulmonary congestion with cardiomegaly. Results of the coronary angiogram were not remarkable. An echocardiogram revealed diffuse LV hypokinesis with dyskinesis of the inferior wall, marked thinning of the dyskinetic basal septum, and severe mitral and tricuspid regurgitation and dilated annuli (Figure 1). LV end-diastolic diameter (LVDd) was 72 mm and LV ejection fraction (LVEF) 22%. Perfusion defects were present in the basal septum and inferior wall according to thallium 201 scintigraphy. With the definitive diagnosis of extracardiac sarcoidosis with biopsy and the presence of cardiac involvement, cardiac sarcoidosis was diagnosed.

Surgery was performed through a median sternotomy, and the patient was supported with cardiopulmonary bypass. The mitral valve was repaired with a 24-mm flexible annuloplasty ring. The tricuspid valve was repaired by a 27-mm flexible annuloplasty ring. For dual SVRs, an approximately 7-cm incision was made between the papillary muscle bases of the

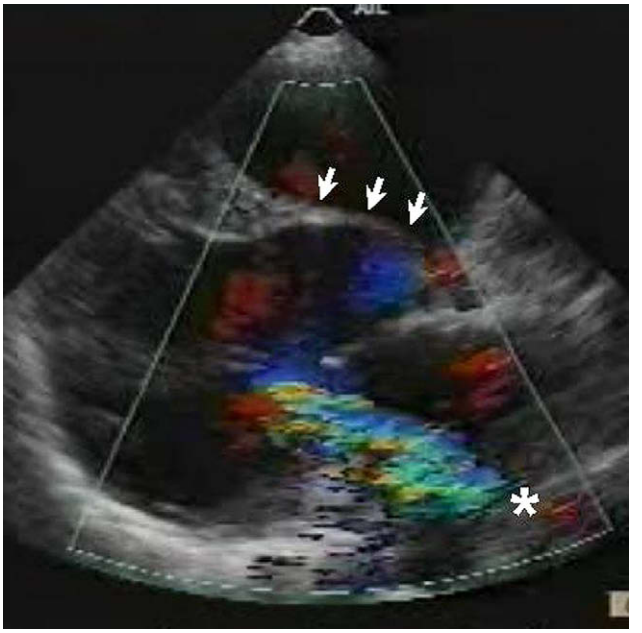

FIGURE 1. The long-axis view of the preoperative echocardiogram showing remarkable thinning of the basal septum *(white arrows)* and severe mitral regurgitation *(asterisk).*

LV lateral wall. Endoventricular patch plasty for the basal septum was performed through the ventriculotomy described above. The anterior, posterior, and caudal edges of the patch were sutured with 4–0 polypropylene stitches with small felt pledgets through the ventriculotomy, and the cranial edge of the patch was sutured with 4–0 polypropylene stitches with spaghetti-shaped Teflon pledgets to the aortic annulus of the coronary cusps through an aortotomy (Figure 2). All sutures were taken and tied from the ventricular end to prevent

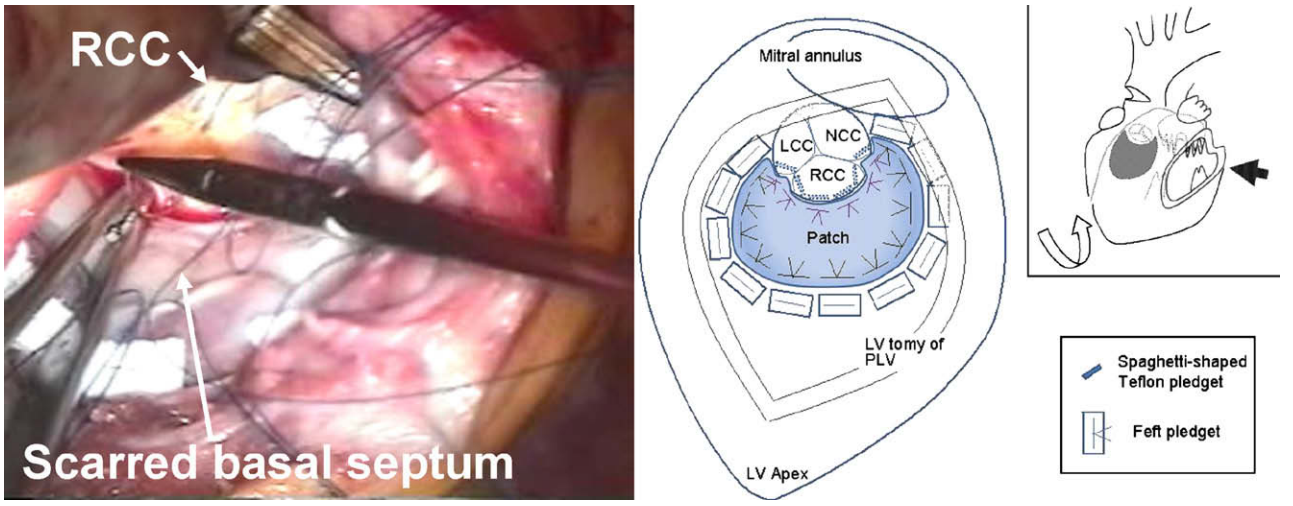

FIGURE 2. The operative view and the schematic presentation of basal septum repair performed through the ventriculectomy at the lateral LV wall. Multiple pledget-supported sutures were placed at the anterior, posterior, and caudal edges of the scarred basal septum, and spaghetti pledget-supported sutures were placed at its cranial edge through an aortotomy. *RCC,* right coronary cusp; *LCC,* left coronary cusp; *NCC,* noncoronary cusp; *PLV,* partial left ventriculectomy; *LV,* left ventricle.

the possible risks of aortic leaflet injury caused by the knots. Subsequently, the diseased section of the lateral wall along the incision was excluded, and the incision was closed in a double-layered fashion with felt strips to achieve PLV (Video E1). The aortic crossclamp time was 135 minutes, and the cardiopulmonary bypass time was 241 minutes. The postoperative course was uneventful, and the postoperative echocardiogram showed improved LV shape/dimension and function (LVDd = 57 mm, LVEF = 30%) with no mitral, tricuspid, or aortic regurgitation. She was discharged, able to walk, on postoperative day 49. Three years after the operation, she is doing well; her cardiac status is NYHA class I, LVDd is 56 mm, and LVEF is 33%.

DISCUSSION

To the best of our knowledge, this is the first report describing a case wherein dual SVRs were successfully performed for the reconstruction of the diseased basal septum and LV lateral wall in a patient with sarcoidosis-induced dilated cardiomyopathy.

Although cardiac sarcoidosis and idiopathic cardiomyopathy have many features in common, the important difference is that the former often involves multiple and patchy LV segments, most frequently in the anterior LV wall and interventricular septum.[1] SVR is reported to be an effective therapeutic option for cardiac sarcoidosis.[2] Further, in patients with both anterior and septal LV involvement, septal anterior ventricular exclusion is the method of choice in SVR because it offers low operative mortality and a favorable long-term outcome.[2,3] Nevertheless, the septal anterior ventricular exclusion method is limited in that it inevitably requires an incision along the anterior LV wall for reconstruction of the interventricular septum[3]; thus, it can barely be applied in patients with a diseased septum and an intact anterior wall. In our case, the basal septum and the lateral wall were diseased and the anterior wall was intact.

A permanent AV sequential pacemaker may be necessary postoperatively when conduction disturbance is induced by the periannular stitches taken along the right coronary cusp; however, this is not an issue when the patient already has a pacemaker implanted or is willing to undergo implantation. In our case, complete AV block was already treated by permanent pacemaker implantation. In such cases, the surgeon can reconstruct the basal septum through the ventriculotomy at the lateral LV wall to achieve PLV without the concern of damaging the conduction system around the aortic annulus and consequently decrease the enlarged LV diameter while preventing possible future ventricular septal perforation.

In conclusion, we have reported a case wherein dual SVRs were successfully performed in a patient with cardiac sarcoidosis. This novel method wherein a patch is placed on the scarred basal septum through a ventriculotomy for PLV at the diseased lateral wall was effective in the surgical treatment of dilated cardiomyopathy involving multiple and patchy LV segments. The long-term outcome of this treatment remains unknown[2,3]; hence, a careful follow-up is mandatory.

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Potential role of the Impella Recover left ventricular assist device in the management of postinfarct ventricular septal defect

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Impella Recover is a trade name of ABIOMED, Inc, Danvers, Mass.

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Postinfarction ventricular septal defect (VSD) remains a dangerous complication after acute myocardial infarction with regard to both natural history and surgical treatment. VSD appears in 1% to 2% of patients after a myocardial infarction. Prognosis is poor, with only 75% of untreated patients surviving after 24 hours, 50% after 1 week, 30% after 2 weeks, and only 15% after 30 days.[1] The literature describes different outcomes depending on whether the corrective operation is performed promptly or deferred; mortality is 67%