

CASE IMAGE

Left atrial myxoma presenting as a mass with cystic component

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KEYWORDS

Myxoma

A 49-year-old female patient was admitted for cerebral infarction. She had no previous medical history, and a contrast-enhanced chest computed tomography performed 1 year ago showed a 1.22×1.83 cm sized left atrial mass attached to the interatrial septum (IAS). We performed transthoracic and transesophageal echocardiography to rule out cardioembolic stroke, and echocardiography revealed a 2.95×1.71 cm sized left atrial mass attached to the IAS (Figure 1A). On the echocardiography, the left atrial mass was a cystic mass combined with a solid component (Figure 1B), and there was a blood flow communication in the cystic mass (Figure 1C). IAS was intact, and an agitated saline test showed no bubbles in the left atrium (LA) or within the cyst (Figure 1D). On contrast echocardiography, the contrast agent filled the right atrium, followed by the LA, and finally settled inside the cystic lesion (Figure 1E).

Coronary computed tomography (CCT) (Figure 1F) and coronary angiography (Figure 1G,H) showed three feeding vessels to the cardiac mass, which originated from the proximal left circumflex coronary artery (LCX), mid-LCX, and proximal right coronary artery (RCA). The feeding vessel originating from the proximal LCX was the most prominent.

During surgery, we could ligate two feeding vessels originating from proximal LCX and RCA (Figure 2A), and a feeding vessel originating from mid-LCX was not found. Then, we resected the mass with the IAS (Figure 2B–D) and repaired the septal defect with a bovine pericardium patch (Figure 2E). Postoperative CCT revealed no remnant feeding vessel (Figure 2F), while pathological and immunohistochemical findings indicated the presence of myxoma.

This case presents a unique image of a vascularized tumor attached to the IAS that contains both a cyst and a solid component. In patients with cardiac myxoma, coronary evaluation is not routinely performed, but 37%–52% of cases with cardiac myxoma exhibit feeding vessels from the coronary artery.^{1,2} The feeding vessels from the coronary artery should be ligated to prevent the development of a coronary artery-to-left atrial fistula during the follow-up period.^{3,4}

As a result, every patient with cardiac mass does not need coronary artery evaluation. However, cardiac mass combined with cystic lesion could be a subtype of myxoma having a feeding vessel, and this type of cardiac mass must undergo a coronary evaluation to rule out a feeding vessel.

AUTHOR CONTRIBUTIONS

Hee Jeong Lee was the first author and a major contributor to writing the manuscript. Kyungsub Song and Hyungseop Kim were made critical revisions.

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The authors have nothing to report. No

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no competing interest.

INSTITUTIONAL REVIEW BOARD APPROVAL

The Institutional Review Board of the Dongsan Medical Center approved the study (IRB File No. 2024-02-020, December 13, 2022).

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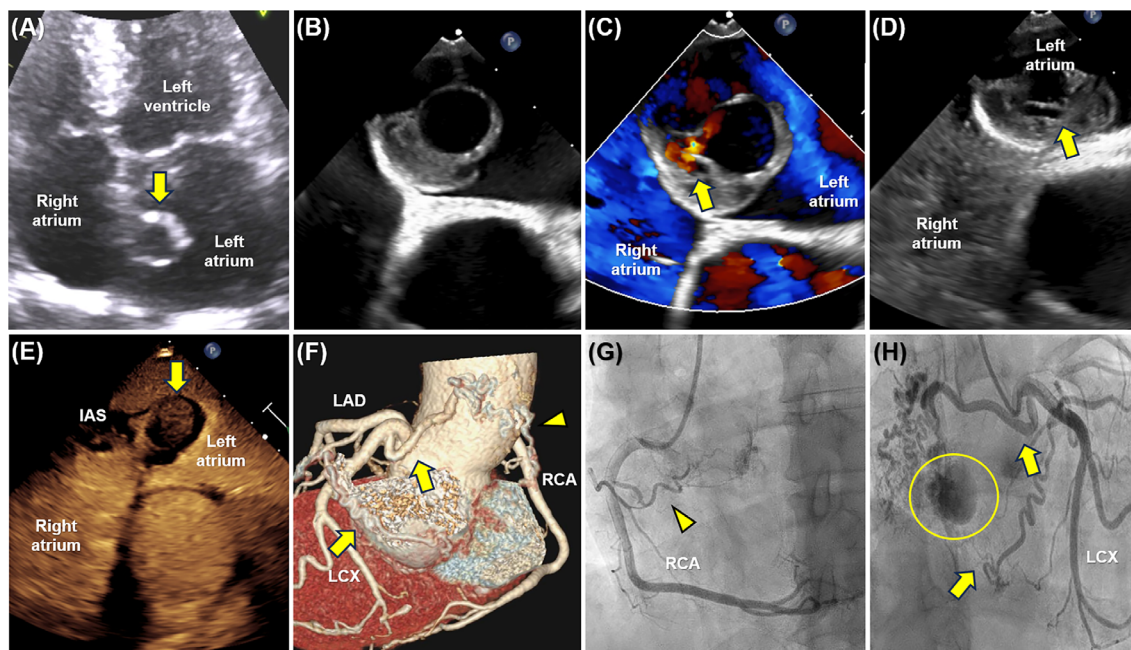


FIGURE 1 Preoperative multimodality images. (A) Transthoracic echocardiography showing a left atrial cardiac mass attached to the IAS (arrow). (B) Transesophageal echocardiography showing a cystic lesion with a solid component (arrow). (C) Color Doppler image showing the feeding arteries (arrow) flowing from the bottom of the tumor into the cystic lesion and blood flow communication in cystic mass. (D) In the agitated saline test, the microbubble was filled in the right atrium, not in the left atrium or the cystic mass (arrow). (E) In contrast echocardiography, contrast was filled in the right atrium, then the left atrium, and finally inside the cystic mass (arrow). (F) Preoperative coronary computed tomography showing three feeding vessels originating from the proximal and mid-LCX (arrow) and proximal RCA (arrowhead). (G) and (H). Coronary angiography showing one feeding vessel from the RCA (arrowhead) and two from the LCX (arrow), as well as a vascular blush in the tumor (circle). IAS, interatrial septum; LAD, left anterior descending artery; LCX, left circumflex artery; RCA, right coronary artery.

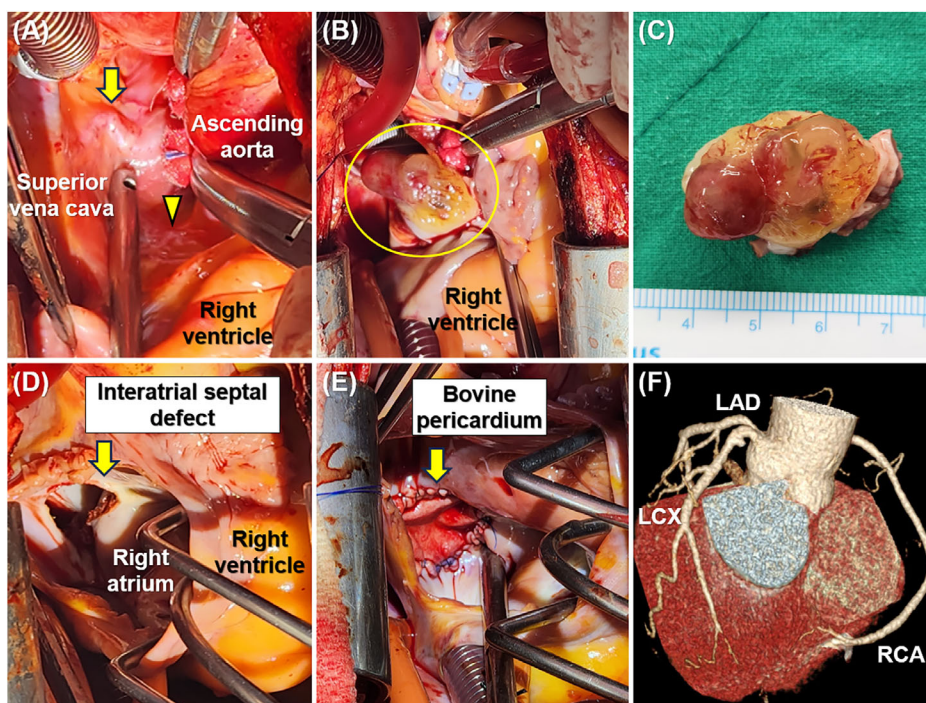


FIGURE 2 Intraoperative findings and postoperative coronary computed tomography. (A) Feeding vessel from the proximal LCX (arrow) and RCA (arrowhead). (B) and (C) Left atrial cardiac mass attached to the interatrial septum (circle) and removed mass. (D) and (E) We removed the cardiac mass with the interatrial septum and replaced the septal defect with bovine pericardium. (F) No abnormal findings were observed on postoperative coronary computed tomography. LAD, left anterior descending artery; LCX, left circumflex artery; RCA, right coronary artery.

PATIENT CONSENT STATEMENT

The requirement for informed consent was waived due to the retrospective nature of the study.

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REFERENCES

1. Omar HR. The value of coronary angiography in the work-up of atrial myxomas. *Herz*. 2015;40:442-446.
2. Rahmanian PB, Castillo JG, Sanz J, et al. Cardiac myxoma: preoperative diagnosis using a multimodal imaging approach and surgical

outcome in a large contemporary series. *Interact Cardiovasc Thorac Surg*. 2007;6:479-483.

3. Roth JE, Conner WC, Porisch ME, et al. Sinoatrial nodal artery to right atrium fistula after myxoma excision. *Ann Thorac Surg*. 2006;82:1106-1107.
4. Burns AC, Osula S, Harley A, et al. Left circumflex coronary artery to left atrial fistula in a patient with mitral regurgitation after excision of a left atrial myxoma. *Ann Thorac Surg*. 2001;72:1732-1733.

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