Double interatrial septum

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The present report describes two cases of an unusual congenital cardiac anomaly in which two atrial septums were present in the heart.

CASE 1

An 88-year-old man was hospitalized with decompensated chronic obstructive pulmonary disease. The physical examination was significant for decreased air entry associated with rales and rhonchi over both lungs and bilateral pitting leg edema. An echocardiographic examination was performed to evaluate cardiac function. The right atrium and right ventricle were enlarged. The colour Doppler examination revealed mild tricuspid regurgitation and the Doppler-derived right ventricular systolic pressure was 50 mmHg. The echocardiogram (shown in Figure 1; apical four-chamber view) also exhibited an unexpected finding of two distinct interatrial septums (arrows), similar in appearance, separated by a space. They showed side-to-side motions independent of each other and of cardiac cycle (Video 1). There was colour flow signal between the two septums.

CASE 2

A 91-year-old woman was hospitalized after a cerebrovascular accident. An echocardiogram was performed to find a cardiac source of embolism.

The two-dimensional echocardiogram did not show any thrombus but showed a double interatrial septum with features similar to the echocardiogram in case 1.

CONCLUSION

Double atrial septum is a rare anatomical anomaly of unknown significance (1). Thrombus formation between the septums with systemic embolization has been reported (2). It is possible that this abnormality causes technical difficulty during transatrial septal catheterization. The double interatrial septum with thrombus formation in the chamber between them could have been the cause of cerebrovascular accident in the second patient.

REFERENCES

1. Roberson DA, Javois AJ, Cui W, et al. Double atrial septum with persistent interatrial space: Echocardiographic features of a rare atrial septal malformation. *J Am Soc Echocardiogr* 2006;19:1175-81.
2. Breithardt OA, Papavassiliu T, Borggreffe M. A coronary embolus originating from the interatrial septum. *Eur Heart J* 2006;27:2745.

Figure 1) LA Left atrium; LV Left ventricle; RA Right atrium; RV Right ventricle

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