



## Correspondance

### Flap like structure at SVC orifice: SVC valve or atypical chiari network?



A 48 year old male patient presented with shortness of breath and chest discomfort on mild exertion. He underwent coronary angiography which revealed triple vessel coronary artery disease. Patient was scheduled for coronary artery bypass grafting surgery. After anaesthesia induction, pulmonary artery catheter was inserted through right internal jugular vein. Intraoperative transesophageal echocardiographic examination was performed. It showed membrane like structure at the orifice of superior vena cava. This valve like flapping structure was attached to the opening of superior vena cava into right atrium. (Fig. 1, clip 1) It was not connected with eustachian or thebasian valve nor with chiari network. It could not be thrombus attached to the pulmonary artery catheter as it was seen during the insertion of the catheter. There was no past history suggestive of central venous catheterization which could predispose to such thrombus formation. On postoperative day 2, pulmonary artery catheter was removed and attached thrombus was not observed. Transthoracic echocardiogram still revealed the same flap like structure.

Embryologically smaller left sinus venous valve fuses with developing interatrial septum to form the part of the septum secundum. The right sinus venous valve mostly involutes and its remnants are observed as eustachian valve or thebasian valve.<sup>1-3</sup> The right valve of the sinus venosus goes from the lateral margin of the superior vena cava to the orifices of the inferior vena cava (IVC) and coronary sinus (CS).<sup>4-6</sup> In foetal stage, function of the right valve of the sinus venosus is to direct oxygenated venous return from the IVC via the foramen ovale (FO) to the left chamber of the heart.<sup>4-6</sup> In a study of cadaveric hearts, two specimens presented

with such valves, one fenestrated and the other complete.<sup>7</sup> The supernumerary valves just beneath the superior vena cava and mirroring the inferior vena cava valve was termed as the “valves of the superior vena cava”. Considering its extension from the sagittal band to the superior interatrial fold, it was linked with persisting superior portion of the left venous valve. In the present case, it would be purely speculative to associate such valve like structure with any of the primitive sinuatrial valves. Other possibility could be atypical presentation of chiari network. Further research and embryonic studies are warranted to establish the incidences and origin of such rare structure.

#### Conflicts of interest

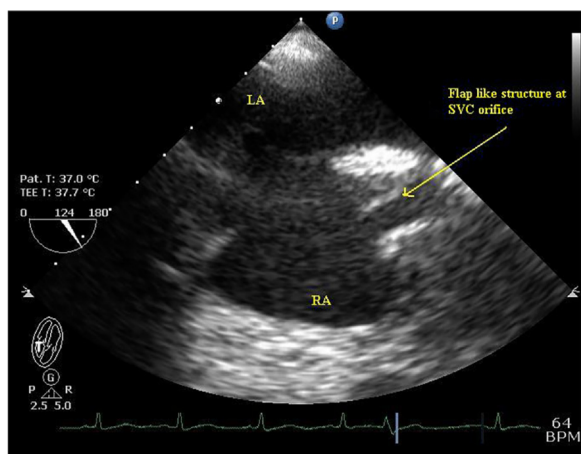
None.

#### Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.ihj.2017.07.007>.

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**Fig. 1.** Midesophageal bicaval view of transesophageal echocardiography showing valve at superior vena cava and right atrial junction.

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