



## Correspondence

## Eustachian valve—Masquerading ASD rim



## Keywords

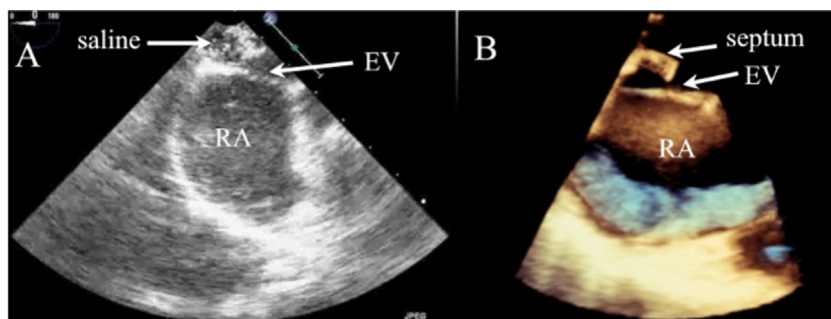
Eustachian valve  
Atrial septal defect  
Device closure  
Embryology  
Complications

Sir,

The Eustachian valve (EV) is a frequent great mimic as evidenced by the elegant report by Raut et al.<sup>1</sup> They have demonstrated how it can potentially complicate a simple percutaneous device closure of atrial septal defect (ASD). The free end was initially confused with superior rim of ASD in transoesophageal echocardiographic (TEE) bicaval view. Only careful examination in other views with rotation of the probe revealed the large EV.

During surgery, EV could be mistaken for the true septum and inadvertently incorporated into the patch. This causes iatrogenic right to left shunt due to diversion of the inferior vena caval (IVC) blood flow into the left atrium.<sup>2</sup> Persistent EV is seen in 70% of children of various ages and TEE is the gold standard in its diagnosis.<sup>3</sup> While we emphasize the need for careful echocardiographic interrogation in all cases of ASD, we would like to share our technique of distinguishing EV from true septum in doubtful cases. In our centre, we employ two techniques for this:

- (1) A saline injection is given to identify EV in doubtful cases. Since EV is derived from the embryonic right valve of the sinus venosus, it is an entirely right atrial structure. It lies on the anterior border of IVC while the true atrial septum will be on the posterior border of IVC. Thus, saline injection will be posterior to EV, but anterior to a true septum (Fig. 1, panel A, video 1).
- (2) Three dimensional echocardiography will clearly separate EV from the true septum (Fig. 1, panel B, video 2).



**Fig. 1. Panel A:** Transoesophageal echocardiography showing saline contrast injection (saline) posterior to Eustachian valve (EV); RA=right atrium. **Panel B:** three dimensional transoesophageal echocardiography showing the anterior Eustachian valve (EV) separately from true septum (septum) which is posterior; RA=right atrium.

## 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.2017.04.011>.

## References

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## Making life simple—Letter to the Editor



In the editorial S. Mishra<sup>1</sup> raised an important topic, the regulatory approval process of the medical devices. Medical devices are the cornerstone for the development in medicine. Currently there are two main regulatory bodies, the FDA in the USA and the CE mark in Europe. The FDA approval process is reliable but complicated and lengthy, and on the other hand the CE mark is less reliable but faster and simpler. We would need a standardized, regulatory process that combines the best of these two, simple, fast and reliable. It is a challenge and duty of the medical community, the manufacturers and the regulatory bodies to create such a regulatory process. Unfortunately, until that comes we have to live with what we have. Making life simple, this should be the message.

## Conflict of interest

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## Reference

1. Mishra S. FDA, CE mark or something else?—thinking fast and slow. *Indian Heart J.* 2017;69:1–5.

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## Dental considerations in cardiovascular patients: A practical perspective



Dear Dr. Mishra, above paper 'Dental considerations in cardiovascular patients: A practical perspective. *Indian Heart Journal* 2016;68:572–575' by Chaudhary S, Jaiswal and Sachdeva has tried to focus on the interlink between cardiovascular and dental diseases.<sup>1</sup> It has mainly emphasised on the antibiotic prophylaxis in various dental conditions/procedures associated with cardiovascular problems particularly valvular and congenital heart disease. However, one important area which needs to be emphasised both by dental surgeons and as well as internists and cardiologists is the presence of tobacco induced oro-dental lesions caused by smoking and/or smokeless tobacco in all cardiac patients. Such lesions may vary from innocuous looking tobacco stains on teeth and buccal mucosa (nicotiana stomatitis) to frank premalignant submucosal fibrosis (SMF) depending upon the frequency and duration of tobacco usage.<sup>2</sup> Different oral symptoms such as gum bleeding, halitosis, trismus, burning sensation, ulceration and difficulty in swallowing are more common among the tobacco chewers. Different periodontal conditions such as periodontal pocket, gingival lesion, gingival recession are more common among gutka and paan masala chewers. Highest prevalence of oral mucosal lesions (22.7%) have been detected among tobacco chewers, compared to the smokers/non-tobacco users.<sup>3</sup>

One can often find typical nicotine stink emanating from mouth or evidence of gum infection which may be a constant source of systemic inflammation contributing to premature atherosclerosis. It is therefore extremely important to have a look at the oral cavity in each cardiovascular patient irrespective of its etiological origin, that is congenital, rheumatic, ischaemic, hypertensive, diabetic or any other aetiology. There are many instances in clinical practice where the patient tells that he does not chew tobacco or smoke but oral examination provides definite evidence of smoking or tobacco intake by way of oral SMF or presence of tobacco particles and/or dark brown tobacco stains on teeth.<sup>4</sup> It is in such situations that oral examination is very much rewarding because one can advise the patient about tobacco cessation very emphatically to ensure relief from angina, hypertension or other comorbidities besides definitive pharmacotherapy. Thus a simple step of oral examination in all cardiovascular diseases shall help in formulating appropriate treatment strategy in a given cardiac patient.

## Conflicts of interest

The authors have none to declare.