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Bifid cardiac apex: A rare morphologic structure

To the Editor:

I read with great interest the case reported by Sayin and associates[1] in the February 2006 issue of the *Journal*. In this article, the authors presented an exceedingly uncommon pathologic condition and provided new insights about the extremes of cardiac morphogenesis. Although the described case is interesting, there are some concerns about the surgical technique. I would like to make the following comments.

The authors reported that the preoperative oxygen saturation was 92% and, by surgical intervention, the arterial oxygen saturation reached 96% postoperatively. As mentioned by the authors, the right ventricular volume was less than normal and the arterial desaturation was probably related to hypoplasia of the right ventricle.

First, the preoperative and postoperative hemodynamic data were lacking, and the reader could not obtain the necessary information from the article about the degree of right ventricular and tricuspid valve hypoplasia. Additionally, the long-term effects of this accessory chamber on right ventricular contractile function are not known. An explanation for why a one and a half ventricle repair was not tried was not convincingly given. Finally, the authors must comment on the possible consequences of partial closure of an atrial septal defect on an already elevated right ventricular pressure.

Another issue with the technique is the persistence of a diverticulum-like chamber communicating with the left ventricle. The magnetic resonance imaging indicates that this chamber is large enough. I wonder why the authors did not consider this blind sac as a potential source of postoperative embolism and arrhythmias.

Because there are scanty data in the literature, such rare anomalies and their surgical corrections should be considered as important opportunities for determining the most accurate surgical approach. The description of a rare congenital anomaly is one aspect of this article, but the applied technique may lead to some interpretive errors because of the lack of necessary data.

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Reply to the Editor:

We thank Dr Basaran and appreciate his kind comments and suggestions regarding our article.[1] First of all, we have to stress that the purpose of our article was mainly to describe this rare cardiac morphologic condition—bifid cardiac apex. Although the patient was examined by several cardiologists in the preoperative period, none of them was able to diagnose the pathologic condition precisely. During the diagnostic workup, magnetic resonance imaging was also performed; however, the bifid apex and the third chamber could not be identified. As we mentioned in the article, the preoperative echocardiogram and intraoperative data were not consistent. We had no data about the preoperative right ventricular volume and tricuspid valve. Therefore, intraoperatively, we decided to close the large atrial septal defect partially, without knowing of the existence of the third chamber. We absolutely agree that the long-term effects of this accessory chamber on right ventricular contractile function are not well known. Also, the intermediate and long-term results of one and a half ventricle repair for these kinds of patients are controversial owing to the evidence of pulmonary arteriovenous fistulas on follow-up. However, we disagree with the underestimation of the blind sac as a potential source of postoperative embolism and arrhythmias, because the exact pathologic condition could not be diagnosed preoperatively.

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Off-pump pulmonary valve placement

To the Editor:

I read with great interest the article by Berdat and coworkers on off-pump pulmonary valve placement.[1] The authors present the results in 4 patients who underwent perventricular (transventricular) placement of a stented Shelhigh valve (Shelhigh, Inc, Union, NJ). The first clinical application of this procedure was published recently by Schreiber and colleagues.[2] I would like to congratulate the authors, who successfully used the perventricular technique for off-pump placement of the pulmonary valve.

The perventricular technique was initially used to close complex muscular ventricular septal defects, and the first report was published in *The Journal of Thoracic and Cardiovascular Surgery* by my colleagues and me.[3] This technique has also been used to close perimemebranous ventricular septal defects.[4]