Which device should be chosen for the percutaneous closure of post-traumatic ventricular septal defects?

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Dear Editor,

We read with great interest the article ''Percutaneous closure of a post-traumatic ventricular septal defect with a patent ductus arteriosus occluder'' written by Xi EP et al. (1). The authors aimed to report their experiences with three patients who underwent the percutaneous closure of a post-traumatic ventricular septal defect (VSD) with a patent ductus arteriosus (PDA) occluder. They concluded that the closure of a post-traumatic ventricular septal defect using a PDA occluder is feasible, safe, and effective. We believe that these findings will act as a guide for further studies regarding the closure of post-traumatic ventricular septal defects with occluder devices. We wish to make a minor criticism about this study.

In the first case, the authors placed a muscular VSD occluder. However, its right plate had an inappropriate configuration; thus, they closed the defect with a PDA occluder. Therefore, they selected the PDA occluder in the two subsequent patients. Although the percutaneous closure of traumatic and postinfarction VSDs can be accomplished with septal occluder devices safely and effectively (2,3), why did they choose the PDA occluder for the other two patients? Additionally, why did they not try to implant a VSD occluder device? In the Discussion section, they indicated that the PDA occluder cannot cause a ventricular outflow tract obstruction. However, all of the patients had muscular VSD, which itself cannot occlude the outflow tract.

The percutaneous therapy of structural heart defects has become an alternative approach to surgery in selected patients. The most important considerations before performing the percutaneous closure are whether the defect can be closed via the percutaneous approach and which device should be selected. There has generally been no consensus on the selection of the device. Further studies should be conducted in the development of defect-specific devices, which may result in an improvement in patient outcome.

AUTHOR CONTRIBUTIONS

Demirkol S contributed to the ideas for the manuscript and the manuscript writing. Balta S contributed to the manuscript writing. Cakar M contributed to literature search. Kucuk U contributed to the critical review of the paper.

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