

## *From the Guest Editor*

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IT TOOK MANY YEARS BEFORE THE CLOSURE OF atrial septal defects by means of devices inserted on catheters became feasible, but now it has, the technique has produced an obvious clinical benefit for many patients. The successful closure of the defects depends on three equally important factors:

- The quality of the device.
- The accuracy of the diagnosis.
- The expertise of the operators.

During the development of the technique, different types and generations of devices went through a natural progress of improvement. The earlier devices are of historical importance, and without them the better performance of the newer ones would not have taken place. In this issue of *Cardiology in the Young*, we have collected together a large series of publications concerned with device closure of defects within the oval fossa. Several different devices are described along with results achieved. It was my task to assemble much of this data. In order to obtain the most objective account of the different techniques, I chose to solicit results from experienced operators who are not the inventors and developers of the particular device about which they are reporting. In my opinion, their accounts now permit us to obtain good insights into the advantages and disadvantages of each device.

Knowledge about the precise anatomy of the defect to be closed is now mandatory for the interventional cardiologist. Detailed anatomical examination of the oval fossa and its environs relative to placement of the device is obviously of great practical importance. The major technical progress

recently made with three-dimensional echocardiography make this method particularly valuable. It gives information about the precise position, the form and the size of the hole between the atriums, and its relationship to the neighboring structures. Three-dimensional echo, nonetheless, still does not produce real-time imaging, although this advance is not likely to be too long delayed. In the meantime, cross-sectional echocardiography remains an important tool both before and during the procedure. The papers which I commissioned to discuss anatomy and imaging do not report series of cases, but rather show how to study the anatomy, and how to perform the imaging in order to make the best use out of the information which can be obtained. The commissioned papers, nonetheless, are then supplemented by other important studies that were submitted to the *Journal* and underwent regular peer review. In spite of the very good quality of imaging, balloon sizing of the defect remains a fundamental contribution, giving information not only about the size of the defect, but also about the elastic properties of the rims of the oval fossa.

Finally, the expertise of the operators, and the good teamwork between echocardiographer and interventionist, are major factors for successful closure. When considering the technical aspects of percutaneous closure of defects within the oval fossa, we should not forget the natural history of this malformation. It is not known whether, in the long term, it is preferable to have a small hole in the atrial septum or a foreign device in the heart. The indication to close, therefore, should be considered carefully. It is interesting to note that, in the past, patients with atrial septal defects have been preferred clients in some surgical institutions. Now percutaneous closure adds to the prestige of both institutions and operators. Indications for closure, therefore, can be influenced by non-medical factors. We all need to take great care to ensure that the benefit of this recent advancement in interventional cardiology goes to the patient.

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