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Atrial septal defect in infancy: To close or not to close?

To the Editor:

I read with great interest the article by Lammers and associates¹ advocating that closure of an atrial septal defect (ASD) should not be postponed to a later age if clinical problems that can be attributed at least in part to the ASD are present. However, a closer look at the historical cohort of Lammers and associates reveals that it is composed mainly of premature syndromic infants in whom the major issue is bronchopulmonary dysplasia and pulmonary hypertension rather than left-to-right shunt across the ASD.² Hence the suggestion of the authors, in the opinion of this reader, is controversial.

Although ASD is the second most common congenital heart disease in children,³ there are still few unanswered questions related to the appropriate timing of closure. Because patients with even large ASDs are mostly asymptomatic, closure is recommended around 3 to 5 years of age, before the child goes to school. Postponing surgical intervention to this age also allows for spontaneous closure of the ASD in some children.⁴ In fact, there does not appear to be any significant benefit in ASD closure before 3 to 5 years of age in small- to moderate-sized defects.⁵

In the opinion of this reader, in the present era of better ventilator equipment and styles of ventilator management, along with widespread use of corticosteroids prenatally and surfactant, nitric oxide, and pulmonary vasodilator therapy postnatally, surgical ASD closure can be postponed in patients with compromised lung function unless all available means of improving lung function have been tried. Only when pulmonary compromising factors have been corrected will an attempt at surgical ASD closure in infancy be valid because even though mortality for major operations with cardiopulmonary bypass in infants

with low weight has become low, a definite morbidity still persists.

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Reply to the Editor:

We appreciate Dr Raja's interest in our recent study.¹

We agree that in asymptomatic children closure of an isolated secundum-type atrial septal defect (ASD II) should be undertaken after 4 to 5 years of age because this might allow for spontaneous closure and facilitate interventional closure in some patients. However, we describe a specific group of patients in whom symptoms have been at least in part related to the presence of an ASD II. In these patients with compromised lungs and rarefied pulmonary vasculature, even a minor left-to-right shunt is poorly tolerated, and early surgical closure could be beneficial.

Our catheter data showed that the majority of the children had a left-to-right shunt that varied in magnitude, as is demonstrated by the Qp/Qs ratio. The actual effect of the left-to-right shunt on the infant's clinical condition is difficult to as-

sess. However, the ASD is an additional factor compromising the child's situation. One cannot treat lung hypoplasia or severe chronic lung disease, but an ASD is amenable to treatment.

There might be a subgroup of patients in whom closure of an ASD is contraindicated. In the presence of progressive pulmonary vascular disease, the existence of an ASD can improve survival.²

Dr Raja suggests that surgical ASD closure in infancy should only be performed after all other compromising factors are corrected. Yet even in the current era of better ventilator management and use of antenatal corticosteroids, nitric oxide, and surfactant leading to improved survival of infants, correction of the lung-compromising factors is not always possible. Moreover, long-term hospitalization and prolonged ventilation of these children is associated with substantial morbidity, including barotrauma, hospital-acquired infections, and immobilization. Therefore we contend that a subgroup of infants can indeed benefit from early ASD closure. Careful patient selection, however, remains a clinical challenge and requires a multidisciplinary approach involving cardiologists, intensivists, and cardiothoracic surgeons to determine the right timing of ASD closure for each individual child.

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The evaluation of aortic atherosclerosis and distensibility in aortic valve stenosis—The role of transesophageal echocardiography To the Editor:

We read with great interest and congratulate Weisenberg and associates on their trans-