Chapter 7

REVIEW OF VENTRICULAR SEPTAL DEFECT SURGERY AND PERIOPERATIVE CONSIDERATIONS

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Introduction

Ventricular septal defect (VSD) is the most common congenital heart disease and VSD closure surgery is the most common procedure in congenital heart surgery (1-3). There has been a significant decrease in mortality and morbidity after VSD closure surgery thanks to the innovations related to surgical technique and postoperative care. Despite all these improvements, surgical related mortality and complications such as heart block, need for reoperation, long intensive care unit (ICU) stay have been reported after VSD closure surgery (4-6). Another issue is that although there are studies in the literature (6), showing that low weight and low age are associated with morbidity, there is no consensus yet.

In this chapter, the timing of the operation, the risk factors for mortality and morbidity after the operation for VSD patient with low weight and low age will be discussed.

Indications and timing for VSD surgery

Most of the VSDs are closed spontaneously within the first year and the possibility of spontaneous closure continues until 5 years of age (7). In spite of the maximal medical treatment, VSD should be surgically closed regardless of age in patients with congestive heart failure (CHF) findings, frequent lung disease, frequent hospitalization and growth retardation.

In patients having large VSD, VSDs should be closed regardless of age unless the symptoms of CHF are improved despite medical treatment. The surgical closure of VSD should be delayed up to the sixth month in patients with the large VSD responding to the medical treatment. After sixth month, while there is a low possibility on the VSD closure spontaneously, the likelihood of developing of pulmonary vascular disease may be increased (7-9). Pulmonary vascular disease develops at various rates in patients with VSD for which the treatment is delayed. It is considered that permanent pulmonary hypertension does not develop in patients with VSD 1-2 years before (7). Inoperability criteria is that pulmonary vascular resistance (PVR) is more than 8 U/m^2, there is no response to the vaso-

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tricuspid regurgitation. One patient was death due to intracranial embolism. In this meta-analysis, the smallest mean age is 2.4 years among the reports (17).

In conclusion, although transcatheter procedures are an alternative to surgical procedures in the selected patients, the mentioned disadvantages of them are a question mark. After the improvements in this field, we think that better results will be obtained with more suitable devices and less surgical VSD closure operation will be needed over time.

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