TRANSCATHETER CLOSURE OF VENTRICULAR SEPTAL DEFECTS WITH LIFETECH MULTIFUNCTIONAL OCCLUDER DEVICE (MF- KONAR) A SINGLE-CENTER EXPERIENCE

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Background:

We aim to evaluate the safety and efficacy of the LifeTech multifunctional Occluder device (MF-Konar) for the transcatheter closure of ventricular septal defects (VSD).

Objectives:

We aim to evaluate the safety and efficacy of the LifeTech multifunctional Occluder device (MF-Konar) for the transcatheter closure of ventricular septal defects (VSD).

Methods:

Clinical features, demographic characteristics and follow-up data of patients who underwent transcatheter VSD closure with MF-Konar between November 2017 and May 2022 were reviewed retrospectively.

Results:

Transcatheter VSD closure with MF-Konar device was performed successfully in 66 out of 67 procedures. The median age and weight of the patients were 5,67 years (range 7 months– 17.8 years) and 17.5 kg (range 6.5–78 kg), respectively. Thirty-two of the patients were boys, and 34 were girls. In forty-eight patients, transesophageal echocardiography, and in 17 patients, transthoracic echocardiography was utilized. For the patient whose VSD was closed in a hybrid procedure epicardial echocardiography was used. VSD was perimembranous in 59, muscular in 4, and postoperative residual in 3 patients. The mean Qp/Qs was 2.3 (range 1.5-2.8), mean pulmonary artery pressure was 18 mmHg (range 9-29). The mean right ventricular side of the VSD diameter on the angiogram was 6.1 (range 3-12) mm. The most commonly used device size was 10/8 mm (18 patients). The other devices were 14/12, 12/10mm, 9/7mm, 8/6 mm, and 6/4 mm (8,12,17, 9, and 1 patient, respectively). The procedure and fluoroscopy times were 42 minutes (range 20-100) and 813 seconds (range 202- 2583). The procedure was performed via

retrograde, antegrade, jugular, and hybrid routes in 37, 26, 2 and 1 patients, respectively. There was no mortality but major complications were observed in two patients. One patient was referred to surgery because of evolving complete atrioventricular block 7 days after the VSD closure. Another patient's VSD device dislocated the day after the procedure and was referred for surgical closure. Minor complications occurred in five patients (namely arrhythmia, residual shunt and pericardial effusion in three, one and one patients, respectively). The mean follow-up duration was 164 days (35–537).

Conclusion:

Transcatheter VSD closure with MF-Konar is an effective and safe treatment option in selected patients. Double disc design enabling both antegrade and retrograde device closure of VSD is a discriminating feature. Therefore, this flexible, low profile and the user-friendly device could be an alternative in transcatheter VSD closure.