Therapeutic strategy for the treatment of Swiss Cheese VSDs

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Introduction: Surgical repair of Swiss Cheese VSDs is still challenging. We describe interventional or combined surgical and interventional strategies for the treatment these lesions.

Patients and methods: During the last 4.5 years 10 patients with Swiss Cheese VSDs were presented. 6/10 had additional complex malformations. They were treated either by a combination of surgery and intervention (9/10) or by intervention exclusively (1/10). Altogether 16 surgical procedures were performed to address the VSDs or the Banding of the pulmonary artery, two hybrid procedures inclusively. Nine patients underwent pulmonary artery banding, in 6/9 a partial occlusion of the VSDs were performed and in three patients additional mayor surgery was necessary. The age at first surgery ranged from 2 weeks to 15 months, mean 3.5 months. The weight ranged between 2.6 and 6 Kg mean 3.8. In 5 patients a second operation was performed for Debanding and closure of additional VSDs, unsuitable for interventional closure (2/4). Two patients underwent 3 surgical interventions. All patients underwent interventional VSD closure. During 14 procedures 16 devices were implanted, 4 muscular VSD Plugs, 3 vascular Plug IV, 8 PDA Plug II and 1 vascular Plug from SJM company (former AGA). The age at the time of intervention ranged between 2 months and 42 months, mean 16.7 months, and the bodyweight was measured between 4 and 12.5 Kg, mean 7.6 Kg. Additional interventions were performed in 4 patients.

Results: 7/10 patients showed complete closure or no relevant residual shunt during the follow up time after the first interventional procedure of 15 - 53 months, mean 31 months. One child needs further interventional treatment, one another operation. One child had a hybrid procedure in the cathlab under ECMO support died two weeks after the procedure on a septicaemia.

Conclusion: For the treatment of Swiss Cheese VSDs a combination of surgical and interventional procedures shows encouraging results. Particularly patients with additional complex malformations can profit from the cooperation between cardiologists and surgeons.