

MP2-8

Comparison of efficacy and safety of 6 different types of nitinol wire mesh occluders in 1321 patients with atrial septal defect (ASD) closure.

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Objectives: To compare efficacy and safety of 6 different nitinol wire mesh occluders in ASD closure: Amplatzer ASO (St Jude Med), Cardi-O-Fix (Starway Comp- without CE mark from 2012), Figulla (Occlutech GmbH), Cera, HeartR (both produced by LifTech Comp) and Hyperion (Comed Comp)

Methods: Between 1997 and 2015 1321 patients (pts) in our center had performed percutaneous closure of ASD using standard transvenous technique.

Results: In 1281 pts (97%) the procedure was successful (in 40 pts - mainly with ASO occluders were withdrawn). There were 1077 single ASD and 204 double/multiples ASD. Some of the clinical and procedural data are shown in the table 1. There were 8 early implant embolizations - 7 ASO, 1 Figulla device – mainly in the early years of its usage. ASD diameter and implant sizes, fluoroscopy time were similar in all groups. In the ASO group the age and weight of the pts were lower and the follow-up longer. No serious complications (such as wall erosion, fracture of the device, or thrombus formation) were observed in any pt. In late observations 1 pt developed endocarditis due to incomplete endothelialization and in 2 others complete AV block occurred, with the need of pacemaker application (all treated with ASO).

Conclusions: All types mentioned above nitinol wire mesh occluders for ASD closure have the same effectiveness what can promote some of them as cheaper alternative. The advantage of the smallest sheath makes Amplatzer's the optimal device in the closure of ASD in small children.

Table 1. Some clinical and procedural data.

Implant type	No of pts	Age (years) mean	Weight (kg) mean	ASD in TEE (mm) mean	Implant size (mm) mean	Fluorosc. (min) mean
Amplatzer	1013	21 (0,5-77)	44,4 (6-119)	12,8 (3-34)	18,1 (4-40)	5,0 (1-39)
Figulla	87	35 (3,4-79)	68,5 (19-121)	16,7 (6-33)	22,9 (12-39)	4,3 (1-13)
Cardi-O-Fix	62	27,3 (2,5-72)	55,5 (14-103)	13,6 (7-22)	19 (9-30)	3,6 (0,8-11,4)
Cera / Heart R	27/31	34,6 (5-74)	59,2 (18-107)	14 (5-26)	18,3 (10-30)	3,6 (1-9,3)
Hyperion	61	28,5 (5,2-77)	57,2 (17-117)	13,2 (4-26)	17,9 (9-34)	3,2 (0,5-11,5)