

**Comparison of the Lifetech Cera and Amplatzer ventricular septal occluders for ventricular septal defects closure in children**

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**Objectives:** The Amplatzer and modified double-disc Lifetech Cera ventricular septal defect (VSD) occluders allow the transcatheter closure of the VSDs. The Amplatzer membranous devices are not used anymore because of increased complete atrioventricular block risk. Therefore, a comparison of these devices will show us the exact risk of the differences of the devices. **Methods:** From May 2009 to July 2016, 147 consecutive patients (mean age  $8.5 \pm 4.2$ , range 1.4-26 year) underwent transcatheter closure of VSD. Used devices were Amplatzer membranous in 35 patients (23.8%), Amplatzer muscular in 32 (21.8%), Cera symmetric in 42 (28.4%), Cera muscular in 23 (15.6%), Cera asymmetric in 4 (2.7%) patients. And also 9 patients took Amplatzer ductal occluder I or II and 2 patients Occlutech muscular VSD occluders. **Results:** There were no differences in age, sex, defect type and shunt ratio between groups. Membranous defect ratio was 71%. Amplatzer device sizes ( $7.22 \pm 2.11$ , range 4-16 mm) were bigger than Cera devices ( $6.22 \pm 1.83$ , range 4-10 mm) ( $p=0.009$ ). Pacemaker implantation was performed temporary in 3 and permanently in 1 patient at Amplatzer group and none in Cera group. The follow-up period was statistically longer at the Amplatzer group ( $22.15 \pm 16.56$  vs  $4.76 \pm 5.52$  months,  $p<0.001$ ). The other complication and residual flow and success rate were similar at both devices ( $p>0.05$ ). Membranous Amplatzer devices used in 72.9% of membranous defect but Cera symmetric and asymmetric devices used 94.5% of membranous defects ( $p<0.001$ ), because of increased block risk of Amplatzer devices. **Conclusion:** Although success rate was similar, Cera devices compare favorably with lower complete block risk. And they make more alternative with choosing symmetric, asymmetric and eccentric types.