

## Our experience in comparing Amplatzer duct occluders I and II

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**Background:** The Amplatzer Duct Occluder (AGA Corporation, MN) is a self-expanding nitinol device for occlusion of patent ductus arteriosus (PDA). This device has revolutionised the treatment of PDA because of the ease of placement and higher rates of occlusion for all sizes and types of PDAs. Clinical results using the ADO demonstrated low rates of dislodgement and extremely high occlusion rates with a single device and procedure.

**Objective:** To compare our experience of duct occlusion using the amplatzer devices ADO1 and ADO2, document the immediate/early closure rate, complications and device behavior during implantation.

**Method:** Retrospective cohort study from July 2008 to December 2010. Review and evaluation of data of all patients on whom we attempted closure of PDA using the amplatzer device.

Demographics	ADO1 (median; range)	ADO2 (median; range)
Age in months	32 ; 11-180	16; 6-130
Weight in Kg	14 ; 8 - 61	9.5; 5.3-39
Narrowest ductal diameter in mm	2.5 ; 1.8 - 5	2.5; 1.5-4
Diameter of aortic ampulla in mm	8 ; 5-12	7.8; 4-13
Length in mm	5; 4-7	7; 5-15
Procedure time	39; 22-75	48; 22-104
Fluoroscopy time	5.3 ; 3.8-13	6.5; 2.8-20
Ductal morphology <sup>1</sup>	A(13%)B(60%)C(27%)	A(36%)B(20%)C(35%)D(2%)E(6%)

**Results:** Total 85 (ADO1-36, ADO2-49) ADO1 devices were 2-6/4, 23-8/6, 11-10/8, ADO2 devices were 24-4/4, 11-3/4, 9-5/4, 2-6/4, 2-4/6 and 1-5/6. In our unit, the approach is always from venous side. Follow-up echocardiography was done on D1 and 4-6 weeks post implantation. In ADO1 all except one implantation were technically successful with immediate complete angiographic closure in 34, trivial contrast flow in one patient and mild flow in one patient (that device embolised on the same day, removed surgically). In ADO2 immediate complete angiographic closure seen in 34, trivial contrast flow in 12 patients and mild flow in three patients of which two embolised. One was retrieved and closed with ADO1, the other was taken out surgically. There were no procedure-related complications.

**Conclusion:** Amplatzer duct occluders are safe and effective for PDA occlusion. In our experience ADO1 has a high early closure rate with lesser complications. ADO2 are more suitable for small children and longer ducts.