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Original Article

Transcatheter Closure of Patent Ductus Arteriosus Using the Amplatzer Ductal Occluder: Early Results and Midterm Follow-Up

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Abstract:

Background: The transcatheter closure of patent ductus arteriosus has advanced rapidly with improvements in device designs. The aim of this study was to analyze the safety, efficacy, and early and intermediate follow-up results of the percutaneous closure of persistent ductus arteriosus (PDA) with the Amplatzer ductal occluder (ADO) in children.**Methods:** Between May 2004 and March 2007, fifty patients between 7 months and 20 years of age underwent the transcatheter closure of PDA, using the ADO. The mean PDA diameter at its narrowest segment (pulmonary end) was 7.35±2.57 mm (range: 4 to 16mm). Follow-up evaluations were performed via echocardiography at 24 hours, and 1, 3, 6, and 12 months and then yearly after implantation.**Results:** Successful immediate occlusion of PDA was achieved in 42 (84%) of the 50 cases. In 5 cases, there were trivial intraprostatic residual shunts. In addition, there was a small residual shunt in one case, left pulmonary artery narrowing in one case, and embolization of the device immediately after the procedure in one case. At 24 hours, color Doppler flow mapping revealed complete closure in all except one case with a small shunt. At 3 months' follow-up, occlusion was complete in all the patients. At a median follow-up of 17 months (range: 3 months to 32 months), all the patients had complete closure.**Conclusion:** We conclude that although the transcatheter closure of PDA using the ADO is a highly effective and safe treatment for most patients, several complications including embolization and left pulmonary artery narrowing may occur in certain cases.

Keywords:

Patent ductus arteriosus , Child , Infant , Follow-up studies

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