MID-TERM FOLLOW-UP OF TRANSCATHETER CLOSURE OF PERIMEMBRANOUS VENTRICULAR SEPTAL DEFECT IN CHILDREN USING AMPLATZER

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BACKGROUND
Ventricular septal defect (VSD) is the most common form of congenital heart defects.

OBJECTIVE
The purpose of this study was to evaluate the results of the early complications and mid-term follow-up of the transcatheter closure of the VSD using the Amplatzer VSD Occluder.

METHODS
Between April 2012 and October 2013, 110 patients underwent percutaneous closure of perimembranous VSD. During the procedure, the size and type of the VSD were obtained from the ventriculogram. A device at least 2 mm larger than the measured VSD diameter by ventriculogram was deployed. Size of VSD, size of Amplatzer and device size to VSD size ratio were calculated. After confirmation of good device position by echocardiography and left ventriculography, the device was released. Follow-up evaluations were done at discharge as well as at 1, 6, and 12 months and yearly thereafter for VSD occlusion and complete heart block.

RESULTS
We had 62 female and 48 male patients in our study. The mean age and weight of the patients at procedure were 4.3 ± 5.6 years (range 2 to 14) and 14.9 ± 10.8 kg (range = 10 to 43). The average device size was 7.0 ± 2.5 mm (range 4 to 14). The VSD occlusion rate was 72.8% at the completion of the procedure, rising up to 99.0% during the follow-up. The most serious significant complication was complete atrioventricular block which occurred in two patients. The average follow-up duration was 10.9 ± 3.6 months.

CONCLUSIONS
Transcatheter closure of the perimembranous VSD is a safe and effective treatment with excellent closure rates. This procedure had neither mortality nor serious complications.

KEYWORDS
Perimembranous ventricular septal defect; Congenital heart defects; Amplatzer