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## **Unconventional use of Amplatzer devices: Percutaneous closure of non-septal cardiac defects/malformations**

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**Introduction:** Device closure for septal defects as fossa ovalis ASD, VSD and PDA is now a well-accepted indication. The Amplatzer devices are the most commonly used throughout the world. In this study, we are reporting the efficiency of closure of non septal defects with the Amplatzer group of devices although they have not been prototyped for use in such conditions.

**Study design:** Retrospective study, tertiary referral center.

**Aim:** To study the use of Amplatzer group of devices in non-septal defects/malformation.

**Material & Methods:** 29 patients in the age group 4 months-67 years, were treated percutaneously with Amplatzer devices for the following conditions: coronary arteriovenous (AV) fistula (Amplatzer duct occluder, n=6), pulmonary AV fistula (Amplatzer duct occluder, n=2), closure of ascending aorta perforation (Amplatzer septal occluder, n=2), ruptured sinus of Valsalva (Amplatzer duct occluder n=9), Fontan fenestration closure (Amplatzer PFO occluder and Amplatzer septal occluder one patient each), closure of large decompressing venous channel from Glenn (Amplatzer vascular plug, n=5) and closure of mitral paravalvular leak (Amplatzer septal occluder, n=1) and aortic paravalvular leak (Amplatzer duct occluder, n=2).

**Results:** Successful closure was achieved in all coronary AV fistula (immediately n=4, at 3 months in all), ruptured sinus of Valsalva (immediate in all), fenestrated Fontan (immediately in all), decompressing vein post Glenn (immediate) and ascending aorta perforation (immediate). The aortic paravalvular leak closed at 3 months follow-up. Continued residual flow persisted in mitral paravalvular leak at 6 months follow up.

**Complication:** Intravascular hemolysis and residual mitral regurgitation persisted in the patient with mitral paravalvular leak requiring surgical explanation and closure. On follow up ranging from 2 months-6 years, complete closure of the defects persisted with no adverse effect. We conclude that, although devices have not been recommended for closure of non septal defects, it is possible in selected cases to treat these conditions non surgically with the use of non-prototype Amplatzer device without significant complications. Though strict long term follow up will be necessary before concluding that it can be safe alternative to surgery.

### **Biography**

Munesh Tomar is a well-known pediatrician in the country with about 10 to 15 years of work experience in the field of pediatric cardiology. Presently she is working as a Senior Consultant in the Department of Pediatric Cardiology and Congenital Heart Disease in Medanta, Gurgaon since March 2011. The major areas in which she is an expert includes- Echocardiography, transthoracic including 3D, transesophageal Ech., fetal echocardiography, evaluation and management of arrhythmias, diagnostic cardiac catheterization etc.

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