

Over-the-wire-technique device implantation: extended experience in difficult cases.

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Transcatheter closure of cardiac defects is a mainstay of treatment in congenital and structural heart disease. Occasionally the devices used are useful in nonstandard or difficult positions but device embolization and malposition can be complicating factors necessitating percutaneous retrieval or emergency surgery. We describe a new 'over-the-wire' technique which allows guided safe deployment and easy retrievability if required.

Methods: We describe 10 cases in which Amplatzer devices were delivered over a wire in challenging anatomy in high risk patients. These cases included baffle leak in complex congenital heart disease (1 pt), paravalvular leak (2 pts), a large patent ductus arteriosus (1 pt), complex ventricular septal defects (2 pts), patent foramen ovalis (2 pts), atrial septal defect (2 pts). In each case the device was punctured close to the release mechanism and a guide wire fed through it (Figure upper), the device and guidewire then being loaded into the appropriate delivery system (Figure middle). The procedure allowed for perfect device delivery control and placement (Figure bottom). Furthermore, the guidewire acted as a safety net in case of malposition/embolization that occurred in one case keeping the device in an harmless position and favouring its retrieval.

Conclusion: We describe the further experience with a novel 'over-the-wire' technique that is useful in deployment of Amplatzer devices in difficult and challenging anatomy, allowing careful controlled delivery and easy retrieval. This will help minimize procedural patient risk in complex cases.

