

## Transcatheter Retrieval Techniques for Foreign Bodies in Children

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### Introduction:

Many techniques for the endovascular retrieval of lost, embolized or misplaced foreign objects have been developed, and the removal of almost every foreign object has become possible. In this paper, we report our experience in retrieving foreign objects

### Methods:

This study was a retrospective analysis of the records of all patients in our institution for transcatheter retrieval of intravascular foreign objects.

### Results:

Between January 2001 and November 2015, 2270 cardiac catheterizations were performed. Among them, 9 patients underwent percutaneous intravascular foreign body retrieval. Patients ages were ranged between 15 days to 10 years.

The foreign bodies consisted of guidewire (2), fractured catheter (2), PDA device (2), ASD device (1), Gianturco coil (1), and stent (1). Five retrievals were performed with single-loop snares easily with usual methods.

In one patient, stent was embolized to the descending aorta during PDA stenting. Initially stent was snared distally and taken into the guiding catheter. Later proximal side was snared and elongated by another snare. Then it was taken into another guiding catheter which was advanced through the contralateral femoral artery.

Misplaced ASD closure device cannot be retrieved with snare or biopotomer catheters. It was retrieved by re-screwing method. But during placement of the delivery cable in the slot of the device, a telescopic method was used.

A 2100 gram premature infant, referred to our clinic 60 days after the embolization of umbilical artery catheter. During catheterization foreign body cannot be retrieved from the proximal part due to adhesion. Snare catheter was advanced distally and snared from distal part. Although we try to pull and push it, the proximal part did not move. So snare was opened at the distal part and gently withdrawn towards the proximal part. After reaching proximal part it was snared and pulled out.

### Conclusion:

Device embolization or misplacement may occur during transcatheter device deployment. Retrieval of misplaced or embolized devices can be performed percutaneously. Cardiologist dealing with intervention should have several plans to retrieve the devices before using them.