

Retrieval of Intravascular Foreign Bodies by Transcatheter Procedure

Duman D., Aykan H., Karagöz T., Behbudov V., Sel K., Gümüştas M., Aypar E., Özkutlu S. Hacettepe University Medical Faculty Pediatric Cardiology Department, Ankara- Turkey

INTRODUCTION Nowadays as the common usage of venous port catheters in the treatment of malignency and the invasive cardiac catheterization procedures in pediatric patients have been rising in quantity; the complications via these practices occurs widely. The embolisation of port catheters, interventional devices, guide wires, stent types and/or other associated materials into the intracardiovascular structures is one of the important complications. We aimed to share our experiences about removal of these embolized intravascular foreign bodies (IVFB) by transcatheter method .

METHOD We evaluated 15 patients retrospectively in whom transcatheter retrieval of intravascular foreign body had been performed between the years 2004-2016 .

RESULTS We summarized the characteristic features of 15 patients in table 1. The mean age of the patients were 9,8 years (1,5-18) and the average weight was calculated as 37,3 kg(8-85). The mean process and scopy time was 67 minutes(mn)(20-225) and 17,6 mn(2-69,5) respectively. The embolisation location of IVBF was toward to pulmonary artery in 4 patients, to right ventricle in one patient and to inferior vena cavae, superior vena cavae(SVC) and right atrium in the rest of the patients. The kind of embolised foreign bodies were venous port catheter fragments in 12 patients, VSD and PDA occluder devices in 2 patients and proximal part of the coronary balloon catheter in one patient. 5 of 12 oncologic patients diagnosed as they were receiving a treatment and in the 7 patients distal part of port catheter was broken away while taking off it. In 7 of those 12 patients, port catheter seemed to be mobile comparing with the rest of 5 patients whose catheters estimated to be stuck on vessel. We used 6-11 french and long sheaths, snare, pigtail and courmand catheters. The IVFB retrieval became unsuccessful in 2 patients due to cohesiveness of port catheters and additionally obstruction of SVC by thrombosis in one patient. There were no complication up to the processes.

CONCLUSION Transcatheter retrieval of IVFB is an effective, reliable and alternative therapy to surgery. It must be hold in mind that especially removing the chronic adherent residual port catheter pieces may lead to vascular injury up to traction maneuverings.

No	Age(year)	Weight(kg)	Diagnosis	Embolized Substance	Embolization Region	Success	Complication
1	14	40	NHL	PORT	VCI	YES	NO
2	1,5	13	HBM	PORT	RV	YES	NO
3	6	17	NBM	PORT	VCS	YES	NO
4	8	29	ALL	PORT	VCS	YES	NO
5	7	30	ALL	PORT	VCS	YES	NO
6	8	30	MBL	PORT	PA	YES	NO
7	16	85	PNET	PORT	VCS	NO	NO
8	4	20	TOF	CTHTR	VCI	YES	NO
9	18	61	VSD	PFM	PA	YES	NO
10	1,5	8	PDA	COIL	PA	YES	NO
11	17	70	AML	CTHTR	VCS	YES	NO
12	15	62	NHL	CTHTR	VCS	NO	NO
13	6	15	NBL	CTHTR	PA	YES	NO
14	7,5	28	ALL	CTHTR	VCI	YES	NO
15	11	32	ALL	CTHTR	RA	YES	NO

NHL, non-Hodgkin Lymphoma; HBM, hepatoblastom; ALL, acute lymphoblastic leukemia; AML, acute myeloblastic leukemia; PNET, primitiv neuroectodermal tumor; TOF, Fallot tetralogy; VSD, ventricular septal defect; PDA, patent ductus arteriosus; CTHTR, catheter; RA, right atrium; VCI, venae cava inferior; VCS, venae cavae superior; PA, pulmonary artery; RV, right ventricle.