

**Supplementary Table S1.** Summary of studies reporting lead dislodgment into the pulmonary artery.

Author,	Country, year	Studied population	Main findings	Treatment	Efficacy
Original research					
Polewczyk, M.; et al. [13]	Poland, 2016	1767 TLEs was carried out, including a group of 19 patients with LDPA	The presence of LDPA was associated with frequent occurrence of intracardiac lead abrasion (increase by 316%) and isolated LRIE (increase by 500%)	TLE	Long-term mortality after TLE was comparable in patients with LDPA are comparable to those in standard TLE procedures
Paskudzka, D.; et al. [14]	Poland, 2018	3 patients (patient A 63 year old woman, patient B 31 year old woman, patient C 83 yea old woman)	Patient A: mild PR and TR in TTE		
			Patient B: no signs, dislocation seen on the CXR Patient C: - clinically: symptomatic bradycardia 35/min, - ECG: periodic ineffective ventricular pacing - TTE: PR - device control: increased capture threshold and impedance of the ventricular lead	Patient A: conservative treatment, Patient B: reduction of the lead body excess during the pulse generator replacement, Patient C: TLE and a new CIED implantation	Patient A: stable lead position, stable electrical and TTE parameters. Patient B : a proper lead position. Patient C: systematically increasing TR, features of PH with a proper position of the implanted lead in control TTE
Case reports					
Dalvi, B.V.; et al. [26]	India, 1990	Not precised, adult	pacemaker lead migration to the RPA with septic pulmonary embolism	Cefuroxamine i.v.	Not precised
Drögemulle r, A.; et al. [23]	Germany, 2003	Adult patient	Split pacemaker lead in the PA, hemorrhagic pleural effusion, increase in stimulation treashold	Catheter-based rescue of displaced lead, capping and fixing	Good clinical effect
Golzio, P.G.; et al. [29]	Italy, 2007	Not precised, adult	CXR: inner coil of an atrial lead in the RPA	TLE	Not precised
Udyavar, A.R.; et al. [22]	India, 2008	56-year-old man	Repeated lead fracture and migration of the lead into pulmonary circulation	Pacemaker implantation with a tined steroid eluting	Not precised

			<p>Clinically: recurrent syncope</p> <p>Device control: battery 0%</p> <p>CXR: migration of the lead into pulmonary circulation</p>	<p>lead; due to complicated anatomy (azygous vein draining into SVC) no extraction of the earlier endocardial leads was made</p>	
Tay, J.K.Y.; et al. [17]	Edinburgh, 2009	74-year-old man	<p>Device control: increased capture threshold,</p> <p>CXR: linear shadow in the left lung, fracture of the lead into 3 segments, one of them migrated into the LPA and the lung, loop of electrode in RV and atrium</p>	<p>Lead extraction and implantation of new pacemaker, a 15 cm loose fragment of lead was removed from RA</p>	<p>repeated CXR suggested further migration of the lead fragment within the PA</p>
Małecka, B.; et al. [32]	Poland, 2010	27-year-old woman	<p>Irregular electric discharges and noises made by ICD, displacement of the left lead end to RPA</p>	<p>Removal of the displaced lead, implantation of new ICD</p>	<p>Discharged home in good general condition</p>
Stein, A.; et al. [28]	Germany, 2011	49-year-old patient	<p>Recurrent VF and VT caused by pacemaker lead migrated to the pulmonary trunk</p>	<p>Not precised</p>	<p>Not precised</p>
Erkan, H.; et al. [18]	Turkey, 2014	78-year-old man	<p>In TTE and CT right abandoned subclavian lead had migrated to the PA. Proximal tip was embolised</p>	<p>No intervention</p>	<p>No complications and no clinical signs, the lead remained silent</p>
Polewczyk, M.; et al. [16]	Poland, 2015	56-year-old man	<p>Clinically: signs of LRIE, shortness of breath, fever, cough</p> <p>Chest CT: signs of inflammation of mid-right pulmonary lobe, migration of the lead to the PA and lungs</p> <p>TTE: dilatation of RA and RV, high PASP (80 mmHg)</p> <p>TEE: no vegetations</p>	<p>TLE</p>	<p>No complications, no signs of lead fragments or vegetations in TTE/TEE, reduction of PASP (60 mmHg)</p>

Michalak, M.; et al. [15]	Poland, 2015	57-year-old man	Complete breakdown and migration of the lead into PA		
			Clinically: mild asymptomatic bradycardia, pectoral muscle contractions depending on body position, pacemaker control: lead impedance >2000 Ohms, lack of proper sensing and stimulation	TLE	Patient was discharged home 3 days after the procedure in good general condition
			CXR: lead breakage at the level the right clavicle, migration of the proximal fragment of the broken lead to the LPA		
Enab, H.; et al. [25]	England, 2021	89-year-old man	Device control: RV threshold rise	Extraction of the lead and implantation of the new RV lead	No complications
			CXR: first - loop of RV lead in the RVOT, later on displacement of the lead to RPA		
Kumar, R.; et al. [24]	India, 2022	8-year-old boy	Clinically: fever, cyanosis, clubbing	Antibiotics, emergency surgery - closure of ASD, removal of pulse generator and endocardial leads, pulmonary valve repair	Mild TR, resolution of pulmonary stenosis
			TTE: atrial vegetations and moderate TR		
			CXR: prolapsed lead loop into the RVOT and pulmonary valve		
			ECG: VT		

Abbreviations: ASD atrial septal defect; CIED cardiac implantable electronic device; CT computed tomography; CXR chest X-ray; ECG electrocardiography; ICD implantable cardioverter-defibrillator; LDPA leads dislodged into the pulmonary artery; LPA left pulmonary artery, LRIE lead-related infective endocarditis; PA pulmonary artery; PASP pulmonary artery systolic pressure; PH pulmonary hypertension; PR pulmonary regurgitation; RA right atrium, RPA right pulmonary artery; RV right ventricle, RVOT right ventricle outflow tract; SVC superior vena cava; TEE transesophageal echocardiography; TLE transvenous lead extraction; TR tricuspid regurgitation; TTE transthoracic echocardiography; VF ventricular fibrillation; VT ventricular tachycardia