Supplementary

Table S1 The inclusion criteria and exclusion criteria for this multicenter randomized controlled trial

Variables	Indicator details
Inclusion criteria	Patients with 2 or more of the conditions as follows:
	a. Patients with PE or IVC or iliac, femoral, and popliteal vein thrombosis who have 2 of the following conditions
	(i) Have contraindications of anticoagulation therapy, with complications such as bleeding occurrence during anticoagulant period, recurrence of PE after adequate anticoagulation, and failure to achieve adequate anticoagulation for various reasons
	(ii) PE coupled with LEDVT
	(iii) Free-floating thrombi or a large number of thrombi in the iliac and femoral veins or IVC
	(iv) Patients diagnosed with thrombophilia and repeated PE occurrence
	(v) Patients with acute LEDVT intending to undergo thrombolysis or PMT
	b. 15 mm ≤ IVC diameter ≤ 30 mm
	c. Aged 18 years or older, with no restrictions on gender
	d. Voluntarily participation and signed informed consent form; able to cooperate with the whole test process
Exclusion criteria	Patients with one or more of the conditions as follows:
	a. Infection present in the puncture site of filter placement
	b. Patients with severe arrhythmia or myocardial infarction within 1 year
	c. Chronic IVC thrombosis, severe stenosis, or malformation of IVC or the internal jugular vein
	d. Pulmonary fibrosis and PE caused by the loss of embolus from the right heart cavity
	e. Patients with massive PE or with dangerous and life-threatening conditions
	f. Patients with bacteremia or toxemia or purulent embolism
	g. Diameter of IVC greater than or equal to the maximum diameter of the backup filters
	h. Severe liver and kidney dysfunction (ALT and AST more than 3 times the upper limit of normal value; Cr >225 μmol/L)
	i. Patients with blood pressure higher than 180/110 mmHg unable to be controlled by medication
	j. INR >3.0 and APTT more than 5 times the upper limit of normal value in patients with severe coagulopathy
	k. Identified patients who are allergic to the components of contrast agent or filter system
	l. Patients with active cancer or life expectancy <6 months
	m. Patients with mental disease, psychological disorders that cannot be properly expressed, or with alcoholism and drug dependence (e.g., drug addiction)
	n. Participation in clinical trials of other drugs or medical devices within 3 months prior to screening
	o. Pregnant or lactating women, and women planning to give birth shortly who could not take viable contraceptive measures during the trial
	p. Other conditions that the investigator considered inappropriate for participation in the clinical trial

PE, pulmonary embolism; IVC, inferior vena cava; LEDVT, lower extremity deep vein thrombosis; PMT, percutaneous mechanical thrombectomy; ALT, alanine transaminase; AST, amino transferase; Cr, creatinine; INR, international normalized ratio; APTT, activated partial thromboplastin time.

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