

VENOUS THROMBOEMBOLISM



Erasmus+

Demographic Data			
	Patient ID		
	Patient number		
	Age		
	Sex	Male/Female	
	Height (cm)		
	Weight (kg)		
	Body mass index (kg/m ²)		

Laboratory Result			
	Hemoglobin	g/dL	
	Hematocrit	%	
	Creatinine	mg/dL	
	Urea	mg/dL	
	Thrombocyte count	10 ⁹ /L	
	PT	sec	
	aPTT	sec	
	INR		
	Fibrinogen	mg/dL	
	D-Dimer	mcg/mL	
	AST	U/L	
	ALT	U/L	
	Troponin-T	ng/mL	
	Pro-BNP	Pg/mL	

PT: Prothrombin time; aPTT: Activated partial thromboplastin time; INR: Internationalized normal ratio; AST: Aspartate transaminase; ALT: Alanine transaminase; BNP: Brain natriuretic peptide.

Anticoagulant - Antiplatelet Treatment Used During Diagnosis					
1	ASA	Yes	No		
2	P2Y12 inhibitors	Yes	No	Ticagrelor	Ticlopidin
				Clopidogrel	Prasugrel
3	Warfarin	Yes	No		
4	NOAC	Yes	No	Dabigatran	Rivaroxaban
				Apixaban	Edoxaban
5	LMWH	Yes	No	Enoxaparine sodium	Bemiparine sodium

ASA: Acetylsalicylic acid; NOAC: New oral anticoagulant; LMWH: Low molecular weight heparin.

Risk Factors					
High Risk Factors		Intermediate Risk Factors		Low risk factors	
Fracture in lower extremity		Arthroscopic knee surgery		Bed rest for more than three	
Yes	No	Yes	No	Yes	No
Hip or knee replacement		Blood transfusion		Diabetes mellitus	
Yes	No	Yes	No	Yes	No
Major trauma		Hormone replacement therapy		Obesity	
Yes	No	Yes	No	Yes	No
Experienced in the last 3 months myocardial infarction		Oral contraceptive therapy		Pregnancy	
Yes	No	Yes	No	Yes	No
History of previous VTE		Cancer		Advanced age	
Yes	No	Yes	No	Yes	No
Spinal cord injury		Central venous catheter		Infection (pneumonia, urinary tract infection)	
Yes	No	Yes	No	Yes	No
		Chemotherapy		Varicose veins	
		Yes	No	Yes	No
VTE: Venous thromboembolism.					

Situations in Which Genetic Risk Factors are Recommended to be Investigated		
Occurrence of VTE without any obvious risk factors before the age of forty	Yes	No
Having a family history of VTE	Yes	No
Development of thrombosis in unusual areas (upper extremity, cerebral, intra-abdominal veins)	Yes	No
History of recurrent VTE	Yes	No
A history of one or more early miscarriages	Yes	No
History of neonatal thrombosis	Yes	No
VTE: Venous thromboembolism.		

Genetic Risk Factors in the Development of Thromboembolism		
Activated protein C resistance: (Factor V Leiden)	Yes	No
Prothrombin G20210A mutation	Yes	No
Protein C deficiency	Yes	No
Protein S deficiency	Yes	No
Antithrombin III deficiency	Yes	No
Hyperhomocysteinemia	Yes	No
Factor VIII increase	Yes	No
Factor VII deficiency	Yes	No
Congenital dysfibrinogenemia	Yes	No
Plasminogen deficiency	Yes	No
Factor IX increase	Yes	No
VTE: Venous thromboembolism.		

Symptoms			Clinical Findings		
	Yes	No		Yes	No
Dyspnea					
Pleuritic chest pain					
Cough					
Syncope					
Leg swelling, pain					
Orthopnea					
Hemoptysis					
Palpitation					

Wells Score	
Parameters	Point
DVT clinical symptoms	3
Diagnosis other than PE is unlikely	3
Tachycardia (>100/min)	1.5
History of DVT of PE	1.5
History of immobilization or surgery within the last four weeks	1.5
History of malignancy	1
Hemoptysis	1
RESULT	
Low clinic probability	Moderate clinic probability
High clinic probability	
DVT: Deep vein thrombosis; PE: Pulmonary embolism; * A score of 2 or less is considered low clinical, 2-6 is considered moderate clinical, and 6 or more is considered high clinical.	

Thrombus Location According to Lower Extremity Doppler Ultrasonography Finding			
	Partial	Total	None
Superficial veins			
Popliteal vein			
Femoral vein			
Iliac vein			

Modified Geneva Score	
Parameters	Point
<65 years	1
Previous deep vein thrombosis or pulmonary embolism story	3
Surgery or limb fracture within one week story	2
Active cancer	2
Unilateral lower extremity pain	3
Hemoptysis	2
Heart rate 75-90/min	3
Heart rate >95/min	5
Pain on palpation of the leg or unilateral leg edema-swelling	4
RESULT	
Low clinic probability	Moderate clinic probability
High clinic probability	
*A score of 3 or less is considered low clinical, 4-10 is considered moderate clinical, and 11 or more is considered high clinical.	

Chest Radiography Findings That Can be Detected in Patients with Pulmonary Embolism		
Linear (subsegmental) atelectasis	Yes	No
Pleural fluid	Yes	No
Pleural based opacity	Yes	No
Diaphragm elevation	Yes	No
Pulmonary artery dilation	Yes	No
Sudden vascular interruption	Yes	No
Right ventricle prominence	Yes	No
Decrease in local vascularity-increase in transparency (Westermark sign)	Yes	No

Thrombus Location According to Lower Extremity Doppler Ultrasonography Finding			
	Partial	Total	None
Superficial veins			
Popliteal vein			
Femoral vein			
Iliac vein			

Additional Echocardiographic Parameters Predictive of Pulmonary Embolism					
Ventricular		Pulmonary artery		Right atrium	
Right ventricle/left ventricle basal diameter/area ratio >1		Right ventricular outflow tract Doppler acceleration time >105 ms and/or midsystolic notching		Inferior vena cava diameter >21 mm and decreased inspiratory collapse	
Yes	No	Yes	No	Yes	No
Interventricular septum flattening (Left ventricle eccentricity index in systole and/or >1.1 in diastole)		Early diastolic pulmonary regurgitation rate >2.2 msec		Right atrium (End-systolic) Area >18 cm ²	
Yes	No	Yes	No	Yes	No
TAPSE/sPAP <0.55 mm/mmHg		Pulmonary artery diameter >25 mm			
Yes	No	Yes	No	Yes	No

TAPSE: Tricuspid annular plane systolic excursion; sPAP: Systolic pulmonary artery pressure.

Echocardiographic Probability Classification of Pulmonary Hypertension			
Pulmonary hypertension probability class			Tricuspid valve regurgitation jet velocity
Low probability	Yes	No	<2.8 m/sec and accompanying additional echocardiographic no parameters
Medium probability	Yes	No	Between 2.8-3.4 m/sec or <2.8 m/sec and accompanying additional echocardiographic there are parameters
High probability	Yes	No	>3.4 m/sec or between 2.8-3.4 m/sec and additional accompanying echocardiographic parameters

Treatment Strategy			
Medical Treatment		Surgical Treatment	
1. Thrombolytic infusion 2. Unfractionated heparin infusion 3. LMWH 4. Warfarin 5. NOAC		1. Catheter directed thrombolysis 2. EKOS™ (acoustic pulse thrombolysis) 3. Catheter directed thrombectomy 4. Surgical embolectomy	
Hospital admission date		Operation date	
Duration of hospitalization after first symptom onset		Duration between 1 st examination and surgery	
Length of hospital stay		Length of hospital stay	
LMWH: Low molecular weight heparin; NOAC: New oral anticoagulan.			

For the Risk of Bleeding in PTE Patients During the First 3 Months of Anticoagulant Treatment REITE Score	
Parameters	Point
New major bleeding (1 month)	2
Creatinine >1.2 mg/dL	1.5
Anemia	1
Cancer	1
PTE with clinical findings	1
Age >75 years	1
RESULT	
Low clinic	Moderate clinic
High clinic	
PTE: Pulmonary thromboembolism. A score of 0 less is considered low clinical, 1-4 is considered moderate clinical, and 4 or more is considered high clinical.	

Early Postoperative Complications			
Dyspnea		Saturation >90%	
Yes	No	80%< Saturation <90%	
		Saturation <80%	
Minor bleeding		Bleeding gums	
Yes	No	Nose bleeding	
		Bleeding at the procedure site	
Major bleeding		Gastrointestinal bleeding	
Yes	No	Alveolar hemorrhage	
		Retroperitoneal bleeding	
Contrast nephropathy		Dialysis	
Yes	No	Hydration treatment	
Contrast nephropathy			
Yes	No		

3rd and 6th Month New York Association (NYHA) of Patients		
	3rd	6th
Class I: No symptoms of heart failure		
Class II: Symptoms of heart failure with moderate exertion, such as ambulating two blocks or two flights of stairs.		
Class III: Symptoms of heart failure with minimal exertion, such as ambulating one block or one flight of stairs, but no symptoms at rest.		
Class IV: Symptoms of heart failure at rest.		

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