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2016

Journal of Vascular and Endovascular Surgery

ISSN 2573-4482

Vol. 1 No. 2: 11

DOI: 10.21767/2573-4482.100011

Endovascular Management of Acute Reis PEO^{1,3}, Roever L² and **Pulmonary Embolus**

Keywords: Embolims; Treatment; Endovascular

Received: May 09, 2016; Accepted: May 11, 2016; Published: May 13, 2016

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Introduction

The first pulmonary embolectomy was done by Friedrich Trendelenburg in 1908 with no survivor and the first successful pulmonary embolectomy was in 1924 [1-3]. Now approximately 630 000 pulmonary embolisms (PE) occur yearly in the United States, resulting in 300 000 deaths [4-8].

The symptoms most often found in patients with PTE are: dyspnea, chest pain, pleuritic chest pain, cough, swelling of the legs, pain in legs, hemoptysis, palpitations, wheezing, chest pain type angina, syncope, hemodynamic instability, acute right ventricular failure, cardiogenic shock and the main imaging methods used in the diagnosis are ventilation-perfusion scintigraphy, pulmonary angiography and computed tomography (CT) (Figure 1).

The guidelines for the management of TEP addresses the risk factors for major and minor, as the relative risk requiring the occurrence of TEP (Table 1). Deep vein thrombosis (DVT) in the lower limbs is mainly responsible for pulmonary thromboembolism (PTE) [9].

With the advancement of new endovascular technologies we have available various catheters for thrombectomy and thrombolysis to treat patients with massive or submassive PE [10-12]. Tajima et al. [10] described a modified rotating pigtail catheter to treat critical pulmonary emboli. Pulmonary embolectomy for massive PE could have good results [13, 14]. However with endovascular procedures PE can be treated quickly and efficiently without a thoracotomy [15-18].

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Citation: Reis PEO, Roever L, Reis IFO. **Endovascular Management of Acute** Pulmonary Embolus. Journal of Vascular & Endo Surgery. 2016, 1:2.

CHEST Guideline and Expert Panel Report published in 2016 suggest the use of catheter-removing thrombus or mechanical interventions in patients with acute pulmonary embolism associated with hypotension, and have a high risk of bleeding or failed systemic thrombolysis, or shock presence that it can progress to death before systemic thrombolysis [19].

In conclusion we agree that probably some patients PE should be treated to remove the embolus and if the PE does not affect right ventricular function the patient will generally do well with anticoagulation.

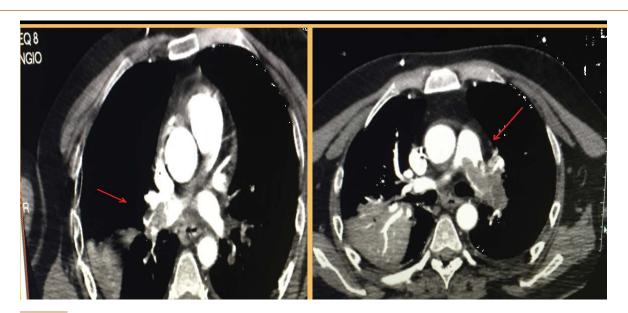


Figure 1 Chest CT-The red arrows shows massive pulmonary embolism from both pulmonary arteries.

Table 1 Risk factors for pulmonary embolism.

Major (relative risk between 5 and 20)	Lower (relative risk between 2 and 4)
• Surgeries	
Major abdominal surgery or pelvic/Hip prosthesis or knee/Post-	Cardiovascular
operative ICU	Congenital heart disease/Heart failure
Obstetrical Events	Congestive/Hypertension/vein thrombosis
End of pregnancy/Cesarean/Puerperium	Superficial/Central venous catheter
• Lower members	Estrogen therapy
Fractures/Varicose Veins	Contraceptive/Hormone replacement
• Neoplasms	• Others
Abdominals/Pelvic/Metastatic	COPD/Neurological Diseases/Hidden Neoplasms/Thrombotic disorders/
• Immobilization	Prolonged Travel/Obesity/Inflammatory disease intestinal/Nephrotic
Hospitalization/Nursing Homes	syndrome/Chronic Dialysis/Myeloproliferative disorders/Hemoglobinuria/
• Others	Behcet's Disease
TVP confirmed prior	

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