Catheter-directed thrombolysis in patients with Acute pulmonary thromboembolism: A case series at The Brooklyn Hospital Center

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Pharmacomechanical catheter-directed thrombolysis in patients with acute pulmonary thromboembolism (PE) is a proven safe and effective method of preventing complications such as right ventricular collapse, cardiogenic shock and death. Three patients with massive or sub-massive pulmonary embolism presented to the Emergency Department at our institution with shortness of breath and were diagnosed with acute PE using computed tomography pulmonary angiogram (CTA). The patients were: A 57 year-old woman with a history of hypertension and previous thyroid cancer which was treated with thyroidectomy presented with a pulmonary arterial saddle embolus and right cardiac dysfunction; a 55 year-old woman on chemotherapy with a history of deep vein thrombosis (DVT), previous tumor-debulking and extended right hemicolectomy for metastatic leiomyosarcoma presented with a large central pulmonary embolus in the right main pulmonary artery without right ventricular strain; a 54 year-old man with a history of lower extremity DVT with a right main pulmonary artery embolus and right ventricular strain. Based on the clot location in each patient, an EKOS catheter was placed in the main pulmonary artery or its branches and alteplase was infused at a rate of 1mg per hour over 10-24 hours. Simultaneously, the patients were anticoagulated with heparin. The patient's hemodynamic status, coagulation profile and fibrinogen levels were continuously monitored for clinical improvement. The follow-up CTA showed 75% to 100% clot reduction in each patient. Complications included a right-sided groin hematoma at the catheter-insertion site in one patient which required temporary discontinuation of thrombolytic and anti-coagulation therapy. Our observations of these three patients show that this method of treatment is a safe and effective initial measure to restore pulmonary artery blood flow in patients diagnosed with acute PE. However, it is still associated with the risk of complications.

Biography

Jomo Osborne earned his medical degree in his native country Guyana and later completed a Masters of Health Science degree in Cuernavaca, Mexico. He has presented at many international conferences and co-authored several peer review articles and conference abstracts. He is currently a surgical resident at The Brooklyn Hospital Centre. His research interest includes sub-massive pulmonary embolism, minimally invasive surgery and surgical quality improvement.

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