Fainting after air travel may indicate pulmonary embolism

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Fainting after recent air travel could be a sign of pulmonary embolism (PE), a potentially fatal blockage in the lungs. Syncope or fainting is an uncommon symptom of pulmonary embolism; however, new research presented at CHEST 2012, the annual meeting of the American College of Chest Physicians (ACCP), found that fainting associated with recent air travel may be a key indicator for PE diagnosis. Fainting as a precursor to PE diagnosis was also associated with a saddle embolism, a larger and more life-threatening form of PE, as well as more abnormal ECG readings.

"Fainting may be an atypical symptom of PE, but fainting associated with recent air travel is a dangerous combination," said lead study author Robert Rifenburg, MD, Resurrection Medical Center, Chicago, Illinois. Due to the proximity to Chicago's O'Hare airport, one of the busiest airports in the United States, Resurrection Medical Center sees many sick travelers who are coming directly from the airport. "If you come to our hospital from O'Hare for evaluation of a fainting episode, and you are ultimately diagnosed with a PE as the cause of your fainting episode, the likelihood that this is a life-threatening PE is high."

To determine the connection between fainting and PE, Dr. Rifenburg and colleagues retrospectively reviewed medical records of 548 patients (mean age 68.9) presenting to the emergency department (ED) and admitted to the hospital with a new PE over a 5-year period. Data collection included demographics, airplane travel history, initial chief complaint, location and type of PE, ECG findings, and

echocardiography results. Of the patients, 10% (n=55) presented to the ED with fainting as their chief complaint; nearly half of these patients (48%) also reported recent air travel, compared with just 8.1% of patients with PE who did not indicate fainting as a major complaint. The fainting group was also more likely to have a large saddle embolism, as well as a higher incidence of abnormal ECG findings, including nonspecific ST-T wave changes, sinus tachycardia, S1Q3T3 abnormality, and right ventricular hypertrophy.

"A large, saddle emboli can cause sudden hemodynamic compromise resulting in disruption of blood flow to the brain. Anytime you have significant disruption of blood flow to the brain, with or without air travel, you are at a higher risk of losing consciousness," said Dr. Rifenburg.

Earlier this year, the ACCP released Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines, which addressed the risk of deep-vein thrombosis (DVT) and PE associated with long-distance travel. Although developing a DVT/PE as the result of long-distance travel is unlikely in most cases, the guidelines note that for long-distance flights, several factors may increase the risk of developing a DVT/PE and related complications, including immobility, recent surgery, the use of oral contraceptives, and others.

Although it is unclear if flight length impacted the association of fainting and PE in the current study, Dr. Rifenburg speculates that patients returning from long flights would be at even higher risk for a serious PE.

"Recognizing the risk factors associated with a DVT and PE is essential for effective prevention," said ACCP President-Elect Darcy D. Marciniuk, MD, FCCP. "The ACCP publishes the most comprehensive evidence-based guidelines related to the prevention and management of

DVT and PE. Hospitals and clinicians should take active steps to implement the guidelines into practice."

Provided by American College of Chest Physicians