

International Perspective from Turkey on “Unsuspected Pulmonary Embolism in Observation Unit Patients”

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Supervising Section Editor: Mark I. Langdorf, MD, MHPE

Submission history: Submitted June 06, 2009; Revision Received July 05, 2009; Accepted July 05, 2009

Reprints available through open access at www.westjem.org

[*WestJEM*. 2009;10:135-136.]

Pulmonary embolism (PE) is a challenging diagnosis for emergency physicians because of its non-specific clinical presentation. Although “chest pain” is one of the major symptoms of PE,¹ it can be part of other serious diagnoses, such as aortic dissection, acute coronary syndrome (ACS), pneumothorax, or even pneumonia. New guidelines recommend using revised Geneva and Wells scores to predict probability of PE.² However, predictive accuracy of these scores in the emergency department (ED) or inpatient setting is still imperfect.³

In these circumstances, avoiding potentially deadly misdiagnosis of PE is not easy. In general, unstable patients should be admitted to intensive care units (ICUs), even without certain diagnosis; however, undiagnosed stable patients with serious chief complaints like chest pain can be candidates for observation units in the ED.

Turkey has approximately 1200 hospital EDs. Those in cities see a large volume of patients, with university hospital annual volumes from 75,000-120,000 patients. Public and state education hospitals are even busier with 120,000-180,000. Today, Turkey has 75 academic EDs, with 25 of these in state education hospitals. Insufficient hospital-bed capacity, coupled with ineffective management of inpatient beds, increases the waiting time of patients in the ED to admit wards.

The model described in this paper, where patients are continuously observed and evaluated to differentiate between those with and without ACS, or other serious causes of chest pain, could benefit Turkish emergency medicine. However, observation units in state education hospital EDs are not used to differentiate potential serious diagnoses like PE. Instead, they are used primarily to give longer term treatments, or pain relief. Patients with potentially serious diagnoses, even if unconfirmed, are admitted to the hospital or transferred to tertiary care facilities. Consequently, observation units in Turkey are not called “Chest Pain Units;” therefore, ED observation for this purpose is not effective as discussed here.

The evaluation of PE in the Turkish ED is similar

to U.S. EDs. Because new technologies are available in academic EDs, 64-slice multi-detector computed tomography is the major tool for PE evaluation in most centers. We no longer use V/Q scintigraphy, but Doppler ultrasound is available almost 24 hours per day in most centers. D-dimer and Well’s or Geneva Criteria are the major clinical tools to risk-stratify for PE in Turkey as well.

For ruling out ACS, we have generally not established appropriate connections for stress testing in stable, low-risk patients while in the ED observation unit. The description of ACS rule out contained in this paper could benefit our patients; however, with our existing ED observation units filled with admitted patients, we have no room to implement such a protocol. Our observation units sometimes turn into ICUs. Long-term ventilators and invasive monitoring are becoming commonplace because in some centers patients stay for days. There, patients are given thrombolytics for stroke, and they spend their entire care in observation units because of no bed upstairs.

This turns the ED practice into long-term intensive and intermediate care in some centers. Fortunately, a regulation forthcoming this year will limit ED observation to no more than 24 hours. Such a limit is actually not new, with regulations some 30 years ago stating, “All emergency cases should be admitted to the appropriate ward if necessary, until the last bed of hospital is used,” or “emergency cases should be directly admitted to an empty inpatient bed.” Most hospitals simply ignore the old policies. As a result, some hospitals do not admit observation unit cases from the ED to their empty beds because they are sparing them for private patients or outpatient cases. Although this is an issue mostly in university hospitals, it seems that hospital politics and finances also drive inpatient and ED bed utilization decisions in Turkey as they do in the U.S.

As the authors mentioned in their report, utilization of diagnostic tools for pulmonary embolism in the ED Chest Pain Unit is insufficient. While we know ED observations units are more cost effective than in-

hospital observation units,⁴ it does not mean that it should restrict investigations of other pathologies. In the study, unsuspected pulmonary embolism was diagnosed in 0.08% of patients. To my knowledge, this is a first report of “unsuspected” pulmonary embolism rate in ED observation units. Although it is a retrospective study, which may overlook the magnitude of the problem, the study still includes an important message: observation units are our chance to evaluate PE as we do for acute coronary syndromes.

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