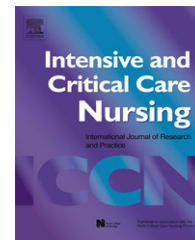




Available online at www.sciencedirect.com

SciVerse ScienceDirect

journal homepage: www.elsevier.com/iccn



REVIEW

Pulmonary embolism in the emergency department: A Singaporean nursing case review

Yvonne Tan^b, Martin Christensen^{a,*}

^a Alice Lee Centre for Nursing Studies, National University of Singapore, Singapore

^b Emergency Department, Tan Tock Seng Hospital, Singapore

Accepted 4 April 2012

KEYWORDS

Pulmonary embolism;
DVT;
PE;
Case review;
Case reports

Summary

Introduction: The presentation of pulmonary embolism to the emergency department (ED) can prove challenging because of the myriad of potential disease processes that mimic its signs and symptoms. The incidence of pulmonary embolism and indeed the mortality associated with it is relatively high. Early diagnosis and treatment is crucial in off-setting the potential deleterious effects associated with this condition. The aim of this article is to present a nursing case review of a patient presenting to the ED with a diagnosis of pulmonary embolism.

Method: We chose to use a case review to highlight the nursing and medical care that was provided for a patient who presented to the emergency department acutely with dyspnoea, chest pain and pyrexia. The use of case reviews are useful in reporting unusual or rare cases and this format is typically seen more in medicine than in nursing. They can naturally take one of two formats—a single case report or a series of case reports; in this case we opted to report on a single case.

Discussion: The gentleman in question was an ambulance admission to the ED with a three day history of chest pain, shortness of breath and one episode of syncope which brought him to the ED. Over the course of his admission a variety of treatment modalities were used successfully to alleviate the problem. More notable from a nursing perspective was the use of diagnostic tools as an interpretation to guide his care and provide a platform from which a deeper understanding and appreciation of the intricacies the critically ill patient often presents.

Conclusion: We found the use of case review very enlightening in understanding the disease process and the decision-making that accompanies this. Whilst our patient was successfully rehabilitated home, we learnt a lot from the experience which has been most beneficial in supporting our understanding of pulmonary embolism.

© 2012 Elsevier Ltd. All rights reserved.

* Corresponding author. Tel.: +65 66011603.

E-mail address: nurmjc@nus.edu.sg (M. Christensen).

Implications for clinical practice

- Pulmonary embolism is and can be a fatal disease.
- In an emergency situation it is often missed because its presenting signs and symptoms often imitate other cardiopulmonary conditions such as myocardial infarction or pneumonia.
- We chose a nursing case review to identify the classic presentation of this condition; to understand and interpret its findings to support clinical decision-making.
- Whilst case review is often used in reporting rare cases and has a preponderance in medicine, we found this approach beneficial in increasing and advancing our knowledge and understanding of conditions such as the one reported here.

Introduction

Pulmonary embolism (PE) is a cardiovascular emergency with a mortality rate of approximately 30% without treatment (Horlander et al., 2003). However, anticoagulant therapy has shown to decrease the mortality rate to 2–8% (Tapson, 2008). For this reason, a prompt diagnosis is crucial to allow the effective therapy be instituted as quickly as possible (Duketis et al., 1998; Headly and Melander, 2011). The greatest problem with PE is failure to consider the diagnosis because the clinical presentation is highly variable and nonspecific. Many of the signs and symptoms detected in patients with acute PE such as chest pain or dyspnoea are also common among patients without PE. Therefore consideration should also include a PE as a potential diagnosis in any patient with chest discomfort or dyspnoea who lacks a firm alternative diagnosis (Kelley et al., 1991). Accurate assessment in the emergency department (ED) requires a thorough knowledge of the differential diagnosis and appropriate use of diagnostic tools. The challenge is to be able to work through the range of differential diagnoses fast while providing appropriate initial treatment for a potentially life-threatening condition. It is imperative not to miss an aortic dissection, acute myocardial infarction (AMI) or PE, neither do we want to over treat a musculoskeletal pain or a panic attack.

The aim of this article is to present a nursing case review centering around a patient presenting to the ED with a three day history of chest pain and shortness of breath. He had one episode of syncope which reverted spontaneously but necessitated admission to the ED. Case reviews are not new to medicine, they appear however to be relatively new to nursing. Traditionally case reviews or case reports have been used to develop and advance medical knowledge (Cohen, 2006; Levin, 1998; McCarthy and Reilly, 2000). These often occurred as a result of new and/or rare conditions being brought to light whereby these then provide insightful information that expanded the existing knowledge base within that particular field. It could be suggested that nursing could also develop along this pathway as a way of providing awareness to difficult or unexplainable patient scenarios. Typically it is the more unusual cases that appear to be reported; instead we chose pulmonary embolism as our focus simply because it is often one of those conditions that can arise immediately and unexpectedly and more often than not necessitates an admission to the intensive care unit (ICU) as was the case in this instance.

Case presentation

Mr. Peter Lim (pseudonym), a 48-year-old taxi driver, presented to the ED in the early morning following an episode of syncope. He had been having chest discomfort for the past three days and felt breathless while doing errands. He had been to toilet that morning and immediately felt dizzy after standing up and consequently lost consciousness. Peter regained consciousness spontaneously but was experiencing chest pain and nausea. He was found by his wife who answered his calls for help and she quickly called for an ambulance. He had no known medical conditions or drug allergies; he was currently receiving no medications and was in good physical condition.

Upon arrival in the ED, he was alert but pale with a tachycardia (114 bpm), blood pressure was 119/85 mmHg with a respiratory rate of 24 breaths/minutes. Oxygen saturation was 88% on room air but increased to 100% after receiving 100% oxygen via a non-rebreathing mask. His body temperature was 38.6 °C, there was no heart murmur or raised jugular venous pressure (JVP). The lungs were clear, and the lower extremities appeared normal apart from the presence of 1 or 2 small varicose veins. His chest X-ray (CXR) showed opacity in the left hilar region with no gross consolidation or pleural effusion or right ventricular enlargement. Bedside ultrasound scan, a FAST scan (focused assessment with sonography for trauma), of his abdomen showed no signs of abdominal aortic aneurysm or aortic dissection. His 12 lead electrocardiographic (ECG) showed a sinus tachycardia with right axis deviation, a S1Q3T3 pattern—a prominent S wave in lead 1; a Q wave and inverted T wave in lead 3 and a right ventricular strain pattern all indicative of cor pulmonale (Fig. 1) (Constant, 2003; Marchick et al., 2010). Based on Peter's clinical presentation and predisposing risk factors (Table 1), a Wells Score of 6 (Table 2) and current ECG changes a PE needed to be excluded (Dewar et al., 2008; Torbicki et al., 2008; Wolf et al., 2004).

We performed an arterial blood gas (ABG) to assess his acid-base balance and gaseous exchange (Table 3) plus a D-dimer (31 µg/dl) to exclude pulmonary embolism but the latter proved inconclusive firstly because of the nature of the test and because he sustained a number of bruises along his lumbar region and buttocks when he originally fell in the toilet. A D-dimer is done to assess the degree or amount of fibrin degradation products present in the blood when a clot starts to break down. In health the D-dimer is not normally present in the blood and therefore any condition such as

Download English Version:

<https://daneshyari.com/en/article/2652996>

Download Persian Version:

<https://daneshyari.com/article/2652996>

[Daneshyari.com](https://daneshyari.com)