



Primary Health Care Program Safety Learning Summary Practice Review Pulmonary Embolus

Occurrence Reporting Summary
Quarter 3 – Fiscal 2015/2016

Summary - What happened?

Female client, age 50's, 2/52 post Whipple procedure, presented to clinic to see Registered Dietician regarding: blood glucose control.

Advised Registered Dietician that she had felt "off" all day. Stated had no appetite and was feeling chilled. Primary provider was asked to see client.

Client denied cough, chest pain, SOB, N/V/D or abdominal pain.

O/E: BP 131/91 HR 112 T 36.8 O₂sats 99%RA

Client was alert. Appeared slightly pale and unwell but non-toxic.

No resp distress.

Abdomen - surgical incision dry and intact. No erythema. Soft. Non tender to gentle palp. BS faint.

Provider was unsure of the cause of the client's symptoms but was uncomfortable especially in light of the client's resting tachycardia. Client was sent to ER for further assessment.

Client was triaged as a Level 4 - Non-urgent and was left waiting many hours for care.

Client was seen by an ERP who obtained a walking O₂ saturation of 90-91% and a chest CT was performed which demonstrated (R) sided pulmonary emboli.

Case Analysis

Pulmonary Embolus (PE) should have been among the list of differential diagnoses, and thus a Wells score should have been calculated by the Primary provider.

Resting Tachycardia and a hx of being 2/52 post-op would give a score of 3 which places the client in a "moderate risk" category. One could argue that an additional 3 points could be given for "alternative diagnosis less likely than PE" - which would still place the client in the "moderate risk" category.

The recommendation then would be a D-dimer and/or CTA.

The benefit to the patient would have potentially been a shorter wait time in the ER, as the triage nurse could have been advised that the client was coming in as a ? PE rather than a vague entry complaint.

Treatment was delayed and could have been missed altogether had the client left prior to being seen.

What were the review findings?

Literature Review - Before using any prediction rule oriented towards this particular diagnosis, the Primary Care Provider should have some suspicion of PE and it is precisely this initial stage which is unclear. The suspicion of PE arose out of four considerations: 1) the absence of indicative clinical signs for diagnoses other than PE, 2) a sudden change in the condition of the patient, 3) a gut feeling that something was wrong and 4) a Primary Care Provider's experience of failing to diagnose PE. The Primary Care Providers did not use rules in their diagnosis.¹ Other studies suggest that many Primary care providers are unaware of the diagnostic algorithm for PE and that clinical probability is frequently not assessed. Not surprisingly, the suspicion of PE is influenced by the providers past experience of failing to diagnose a PE. It is for this reason that the author decided to share this learning; to raise awareness and to support a

culture of safety so others could learn with and from each other.

Identified areas for system improvement and recommended actions?

- [Canadian Medical Protective Association, Good Practices Managing Risk](#)
The Diagnostic process
Key concepts
 - Arriving at a diagnosis is a complex process involving several steps.
 - A differential diagnosis enables **appropriate testing to rule out possibilities** and confirm a diagnosis.
Good practices
 - Develop a differential diagnosis.
 - Consider the worst case diagnosis.
 - Reconsider the diagnosis when symptoms or signs persist.
 - Follow up on investigations and patients.
 - Document the rationale for your diagnosis and treatment.²
- Development of an EMR macro [Thrombosis Canada: Pulmonary Embolus \(PE\) Diagnosis and Treatment](#) include Wells Score, Pulmonary Embolism Rule Out Criteria (PERC), Geneva score that also incorporates a definitive diagnosis of acute Pulmonary Embolism to assist in the development of a risk category.
- Update CDS tool and house **ALL** international and national links and include [Thrombosis Canada](#)
- Update the PERC and Wells Score on of the EMR calculators that is aligned with Thrombosis Canada App
- Pulmonary Embolus “EMR macro” to be used to improve the communication between Primary Care & Emergency Department (ED) teams
 - The “Transition summary” would include the Wells Score, PERC, Geneva score to assist ED to investigate or rule out Pulmonary Embolus
 - Transition summary to be provided to both patient and the Emergency Department and phone call to Emergency Department as per [PCOG 18-Transfer of Patients to Emergency Department](#) **NOTE:** PCOG # 18 (currently being updated)
- Patient information [Thrombosis Canada: You Have a Pulmonary Embolus](#)

REFERENCES:

1. ‘I can’t find anything wrong; It must be a Pulmonary Embolism’’: Diagnosing Suspected Pulmonary Embolism in Primary Care, a Qualitative Study Marie Barais, Nathalie Morio, Aneile Cuzon Breton, Pierre Barraince, Anelie Canvez, Erik Stople, Paul Van Royen, Clair Lietrard May 2014 Vol 9 issue 5 www.plosone.org
2. Canadian Medical Protective Association Good Practices (retrieved November 2015) https://www.cmpa-acpm.ca/serve/docs/ela/goodpracticesguide/pages/manage_risk/The_diagnostic_process/steps_to_diagnosis-e.html
3. [Thrombosis Canada: Pulmonary Embolus \(PE\) Diagnosis and Treatment](#) (Date of version: January 18, 2015) retrieved November 16, 2015