

Episode 18

In this week's episode of the CPSers, Dr. Bryan Broderick presents a clinical unknown to Dr. Zafia Anklesaria.

Problem Representation

A 57-year-old woman with a history of intermittent vaginal bleeding presented with acute on chronic exertional dyspnea and pleuritic chest pain, and was later found to have bilateral pulmonary emboli and a complicated lymphocytic-predominant exudative pleural effusion.

Schemas

The CPSers' schema for dyspnea is a modification of the "dyspnea pyramid". It is an anatomic approach that highlights disorders of the respiratory and cardiovascular systems, in addition to less common etiologies of shortness of breath.

Diagnosis

Pleural fluid cytology revealed adenocarcinoma of gynecologic primary and subsequent endometrial biopsy demonstrated uterine serous adenocarcinoma.

Teaching points

- **Pleuritic chest pain** occurs when there is irritation or inflammation of the *parietal* pleura and is characteristically worsened by deep breathing. A wide number of conditions can produce pleuritic chest pain, but studies have suggested that pulmonary embolism¹ is the most common life-threatening cause.
- Pulmonary emboli can be classified as **massive/high risk** (if there is clinically significant hypotension), **submassive/intermediate risk** (hemodynamically stable but with evidence of R heart strain), or **low risk** (stable without R heart strain).
- Evaluation of a **new pleural effusion** starts with differentiating between exudative and transudative effusions (using Light's criteria²). Additional investigations³, including cytology and biochemical analysis can help identify the underlying etiology.

Clinical Reasoning Pearl

Dual process theory³ describes how clinicians alternate between associative ("System 1") and more deliberate ("System 2") thought processes. We can better inform our system 1 through deliberate practice with real or simulated⁴ clinical experience.

For example:

Dr. Anklesaria suspected a pleural process early in the case due to her association of "spasm-like" chest pain and pleural disease, drawing from her vast experience seeing patients with respiratory complaints.

References

1. Reamy BV, Williams PM, Odom MR. Pleuritic Chest Pain: Sorting Through the Differential Diagnosis. Am Fam Physician. 2017 Sep 1;96(5):306-312.
2. Feller-Kopman D, Light R. Pleural Disease. N Engl J Med. 2018 Feb 22;378(8):740-751.
3. Sahn SA, Huggins JT, San Jose E, et al. The art of pleural fluid analysis. Clin Pulm Med. 2013;20:77.
4. <https://www.sgim.org/web-only/clinical-reasoning-exercises/dual-process-theory-overview>
5. Dhaliwal G. Clinical excellence: make it a habit. Acad Med. 2012 Nov;87(11):1473.