Abstract Form

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Research Category (please check one):

☐	**Original Research**	☒	**Clinical Vignette**	☐	**Quality Improvement**	☐	**Medical Education Innovation**

Abstract

Introduction:
Secondary pneumothoraces (PTX) are often caused by underlying pulmonary diseases including asthma, COPD, cystic fibrosis, or connective tissue diseases. These are more common in patients 60-65 years old, with a 3:1 male-to-female ratio (1). Catamenial PTX (CP) is a thoracic endometriosis syndrome that results in recurrent PTX in women. It has a temporal relationship with menses as it usually occurs within 72 hours of menstruation. Although there are multiple theories for etiopathology, it occurs most commonly in women between 30-40 years old and has shown an association with pelvic endometriosis (2). Three to six percent of PTX cases meet the definition of CP with retrospective studies showing CP accounts for up to one-third of spontaneous pneumothoraces in women (3, 4).

Case Presentation:
A 30-year-old woman with a history of asthma and recurrent spontaneous pneumothoraces presented to her Primary Care physician with shortness of breath after an asthma attack one week ago with her last menstrual period two days prior to her asthma attack. A chest x-ray (CXR) showed a moderate-sized right sided PTX. She was immediately notified and evaluated in the emergency department (ED). A small-bore chest tube was placed and connected to a Heimlich valve. Follow up imaging a few days later showed resolution of the PTX which prompted removal of the chest tube. Shortly after, she experienced worsening shortness of breath and cough, so she returned to the ED. CXR showed a recurrent right sided PTX. Given this was her fourth episode of a right sided spontaneous pneumothorax, a decision was made to perform video assisted thoracoscopic surgery (VATS) for pleurodesis, right upper lobe resection, and right diaphragmatic resection. Tissue sample collected during the procedure showed thoracic endometriosis. Given endometrial tissue found in thorax, timing of symptoms with onset of menstruation and history of recurrent spontaneous pneumothorax, she was diagnosed with catamenial PTX (CP). She was then referred to the Gynecology service and placed on hormonal contraceptives. Since undergoing surgery and initiation of hormone therapy, the patient has not experienced a recurrence of PTX.

Discussion:
Our case highlights that catamenial PTX (CP) should be considered in the differential in reproductive aged women who have recurrent pneumothoraces. The diagnosis of CP relies on symptoms presenting in synchronicity with menses and is supported by histological examinations of thoracic lesions showing endometrial tissue. There are no diagnostic criteria for imaging, though diaphragmatic fenestrations are commonly seen, suggesting its contribution to the development of the pneumothoraces (5,6). Optimal treatment of CP is a combination of thoracic surgery and adjunct medical management (7). Surgery for CP has shown to have almost zero mortality and no significant morbidity with the most common complication being recurrence (8). If diaphragmatic lesions are present, it is critical to surgically address through resection or mesh placement as it leads to less reoccurrence of PTX (9, 10). GnRH analogues for 6-12 months are beneficial in combination with pleurodesis to allow the formation of effective pleural adhesions. Longer regimens (median 17.5 months) are recommended to patients who require multiple operations for CP (11).

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