

Spontaneous pneumothorax caused by suspected thoracic endometriosis in the setting of COVID-19 infection

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Background: Spontaneous pneumothorax can present as a manifestation of thoracic endometriosis, as well as a complication of COVID-19 infection. We present a case of a young female with endometriosis who was found to have pneumothorax in a setting of recent menstruation and uncomplicated COVID-19 infection.

Case Description: 30-year-old female with surgically diagnosed stage IV endometriosis presented to the emergency room with sudden onset shortness of breath. Last menstrual period had occurred 6 days prior to presentation. Her imaging revealed a right-sided pneumothorax. A right sided chest tube was placed with improvement of symptoms. She was also found to be positive for uncomplicated COVID-19 which was managed conservatively. Her hospital course was complicated by recurrent pneumothorax, and she eventually underwent Video Assisted Thoracic Surgery (VATS) with pleural biopsy, excision of diaphragmatic implants and pleurodesis. Histopathological studies from pleural fluid and pleural biopsy were negative for endometrial cells.

Discussion: Catamenial pneumothorax is the most common manifestations of thoracic endometriosis. Diagnosis of thoracic endometriosis is based on clinical presentation with characteristic surgical and histological findings. VATS is considered gold standard for diagnosis, however endometrial tissue may not always be demonstrable. Pneumothorax was found in 0.66% of COVID-19 cases in a study involving 902 cases, with two-third of these cases in patients who were mechanically ventilated. Spontaneous pneumothorax is a possible but rare complication in uncomplicated COVID-19 infection. We believe the etiology of pneumothorax in this case was more likely from thoracic endometriosis considering the temporal association of pneumothorax with the onset of menses in a patient with histologically proven pelvic endometriosis. However, concomitant mild COVID-19 pneumonia may increase this risk. While initial treatment of pneumothorax with chest tube drainage is the same with either cause, it is important to recognize alternative etiologies as additional treatment with hormonal suppression may be considered to prevent recurrence.