

Spontaneous Pneumothorax Caused by Suspected Thoracic Endometriosis in the Setting of COVID-19 infection

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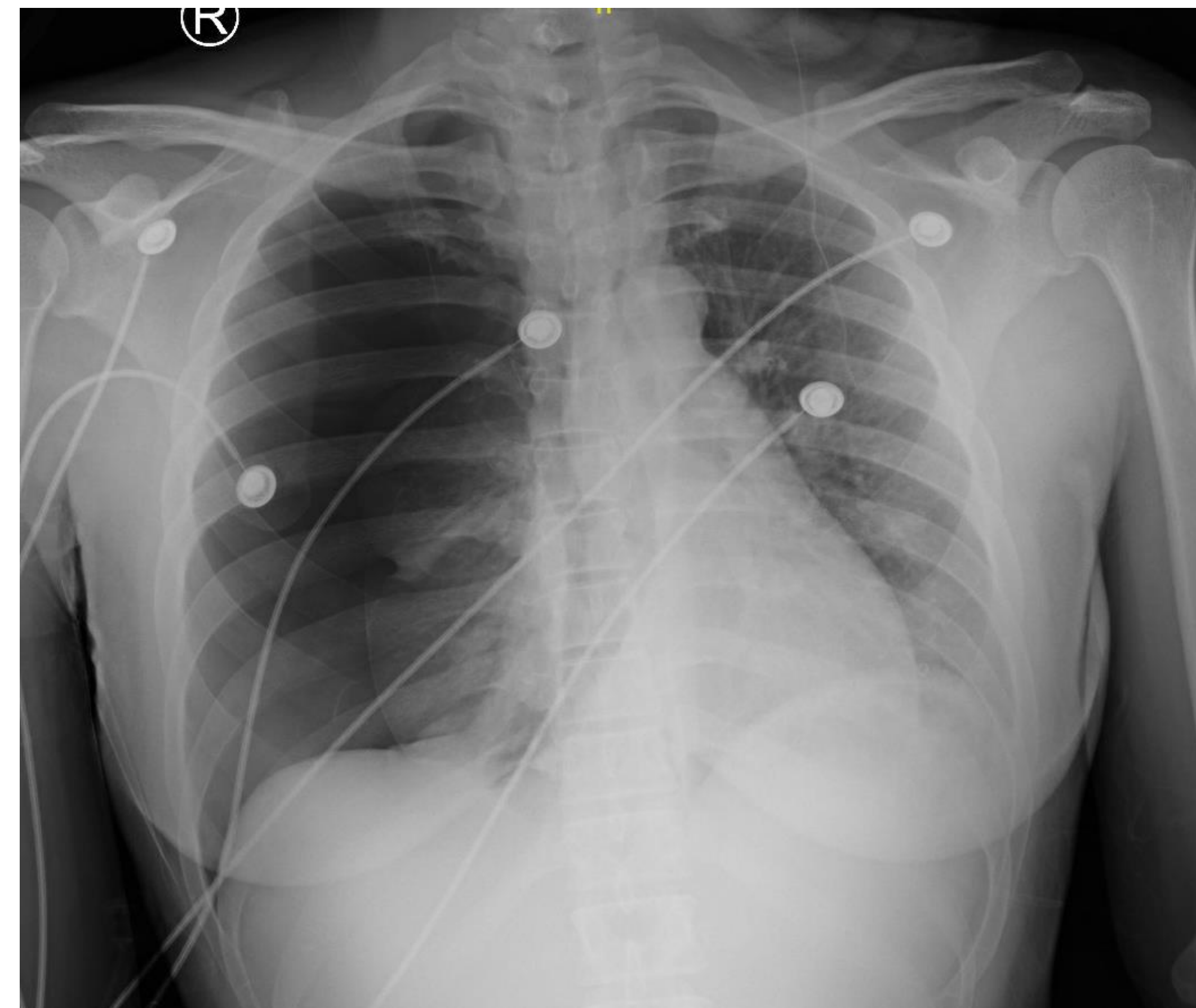
Background

Spontaneous pneumothorax has been seen in patients with uncomplicated and clinically resolved COVID-19 infection. Catamenial pneumothorax, or pneumothorax associated with menses, is a rare entity seen with thoracic endometriosis, in which endometrial tissue implants within the thoracic cavity. We present a case of a patient with pneumothorax with suspected thoracic endometriosis in the setting of uncomplicated COVID-19 infection.

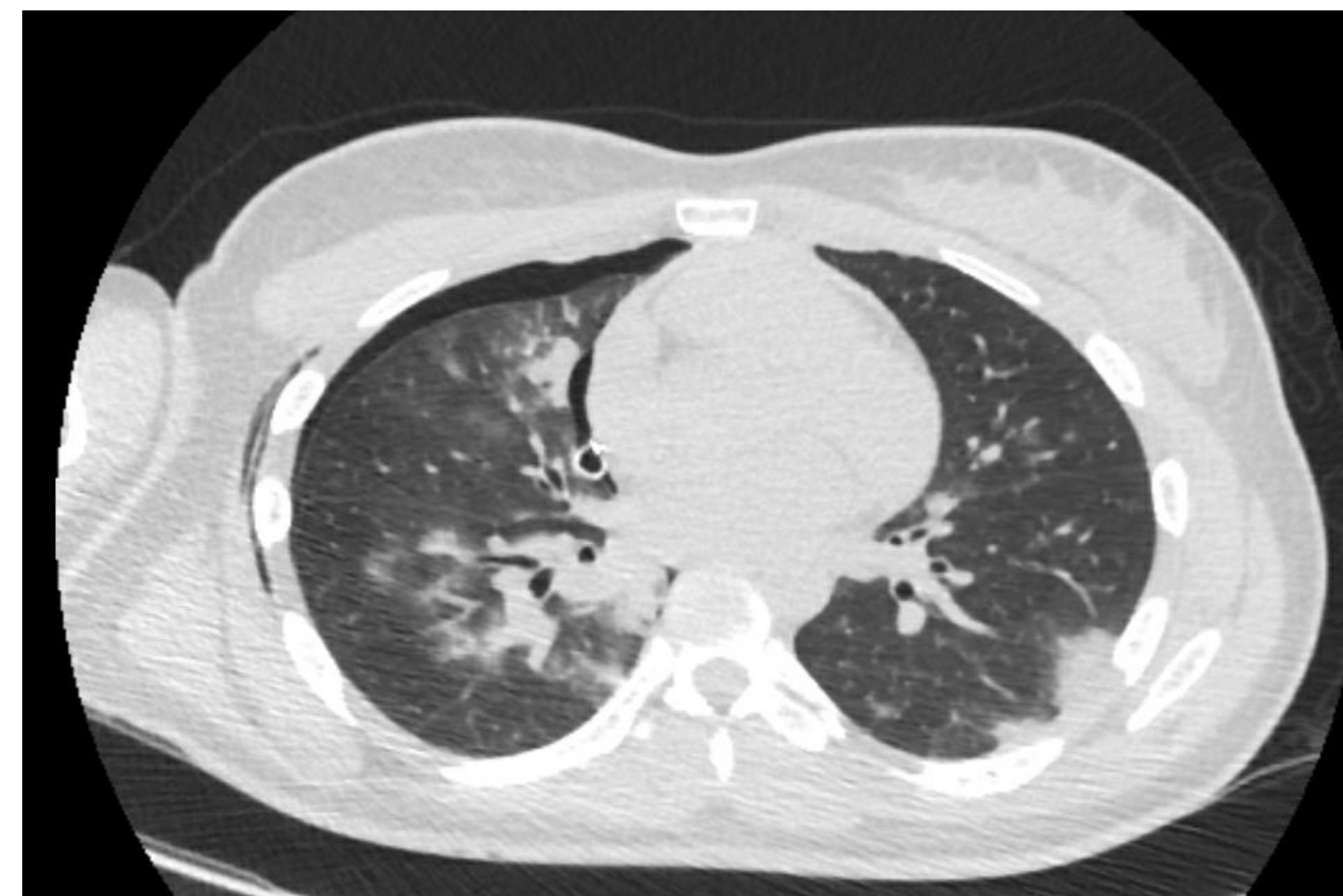
Case

The patient is a 30 year old female with medical history notable for stage IV endometriosis who presented to the ER with sudden onset shortness of breath associated with sharp, substernal chest pain. Initial vitals were unremarkable, without hypoxia. CXR showed a large right-sided tension pneumothorax, and a right sided chest tube was placed. Admission labs were unremarkable, however patient was found to be COVID-19 positive. Of note, patient's last menstrual cycle occurred 6 days prior to presentation. Remdesivir and dexamethasone were deferred as patient was not hypoxic.

Imaging



Chest x-ray on initial presentation, demonstrating large right tension pneumothorax



CT chest without contrast demonstrating small residual pneumothorax, peripheral opacities and right sided chest tube adjacent to heart

Case Cont.

CT chest without contrast showed patchy bilateral consolidations involving all lobes, predominantly in a peripheral distribution, typical of COVID-19 infection. Hospital course was complicated by recurrent pneumothorax, requiring reinsertion of chest tubes. She subsequently underwent VATS with pleural and wedge biopsies, excision of diaphragmatic implant and pleurodesis. Pleural fluid cytology was negative for endometrial cells. Surgical pathology of pleura showed fibroadipose tissue with focal acute and chronic inflammation, wedge biopsies showed subpleural emphysematous changes and the diaphragmatic implant showed fibroconnective tissue with focal chronic inflammation. Post procedure patient was discharged home in stable condition after NuvaRing implantation.

Discussion

Diagnosis of catamenial pneumothorax is dependent on history with histological examination of lesions. Endometrial tissue, however, may be absent in some cases, as seen with our patient. Although the lack of tissue in her case did not preclude the diagnosis of thoracic endometriosis, it is possible that COVID-19 infection increased her risk for pneumothorax.