

A rare case of incidental catamenial pneumothorax in an Asian woman with endometriosis-related ascites and pelvic endometriosis

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Background

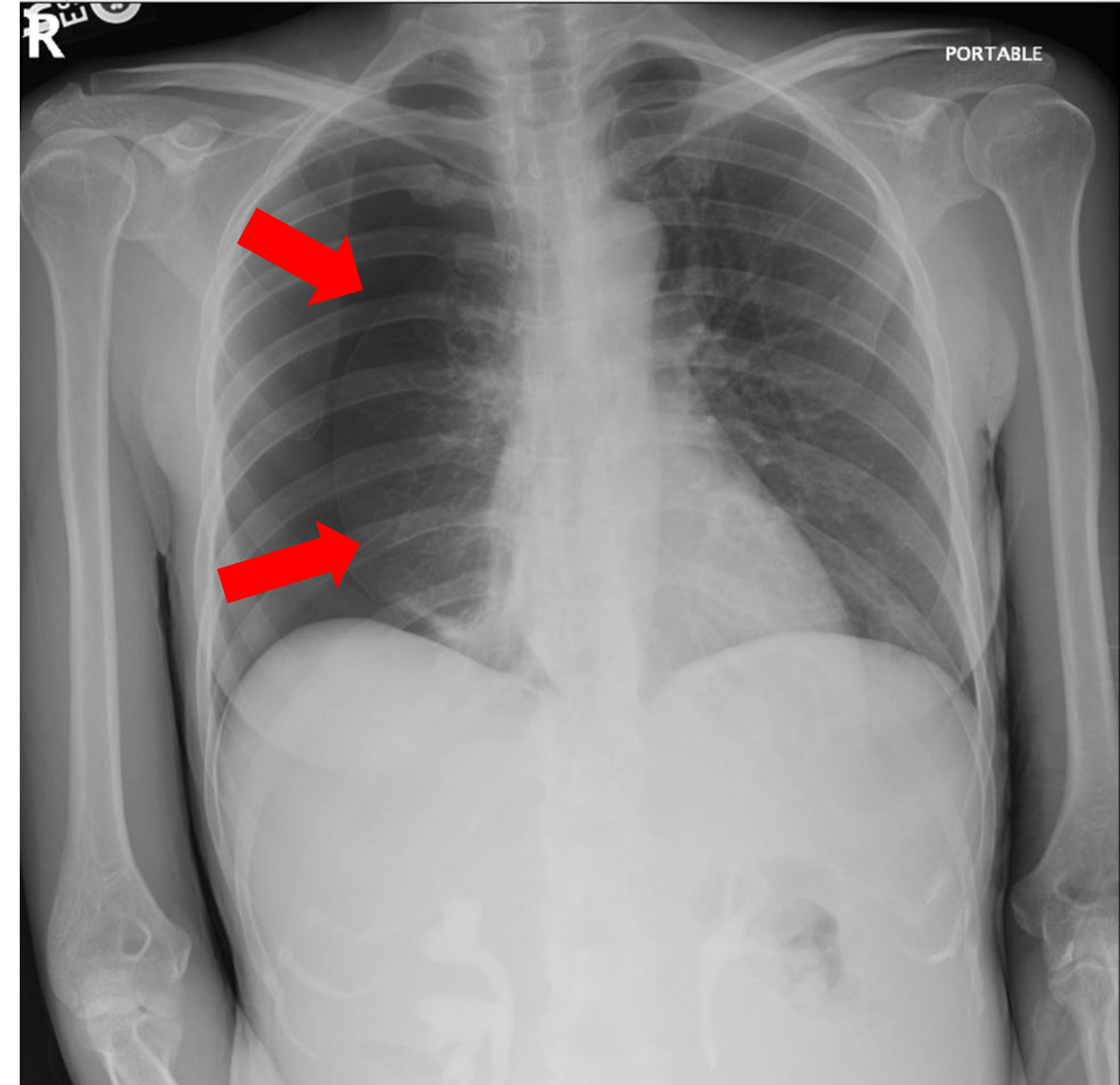
- Endometriosis is a multifocal chronic condition affecting up to 10% of reproductive-age females worldwide.
- The manifestations of the disease outside of the reproductive system are varied often leading to delay in diagnosis.
- One of these manifestations includes thoracic endometriosis syndrome which includes catamenial pneumothorax, catamenial hemothorax, catamenial hemoptysis, catamenial hemopneumothorax, and endometriosis lung nodules.
- Catamenial pneumothorax is the most common form of this thoracic endometriosis syndrome.
- It is defined as “spontaneous recurrent pneumothorax, occurring in women of reproductive age, in temporal relationship with menses”

Case Presentation

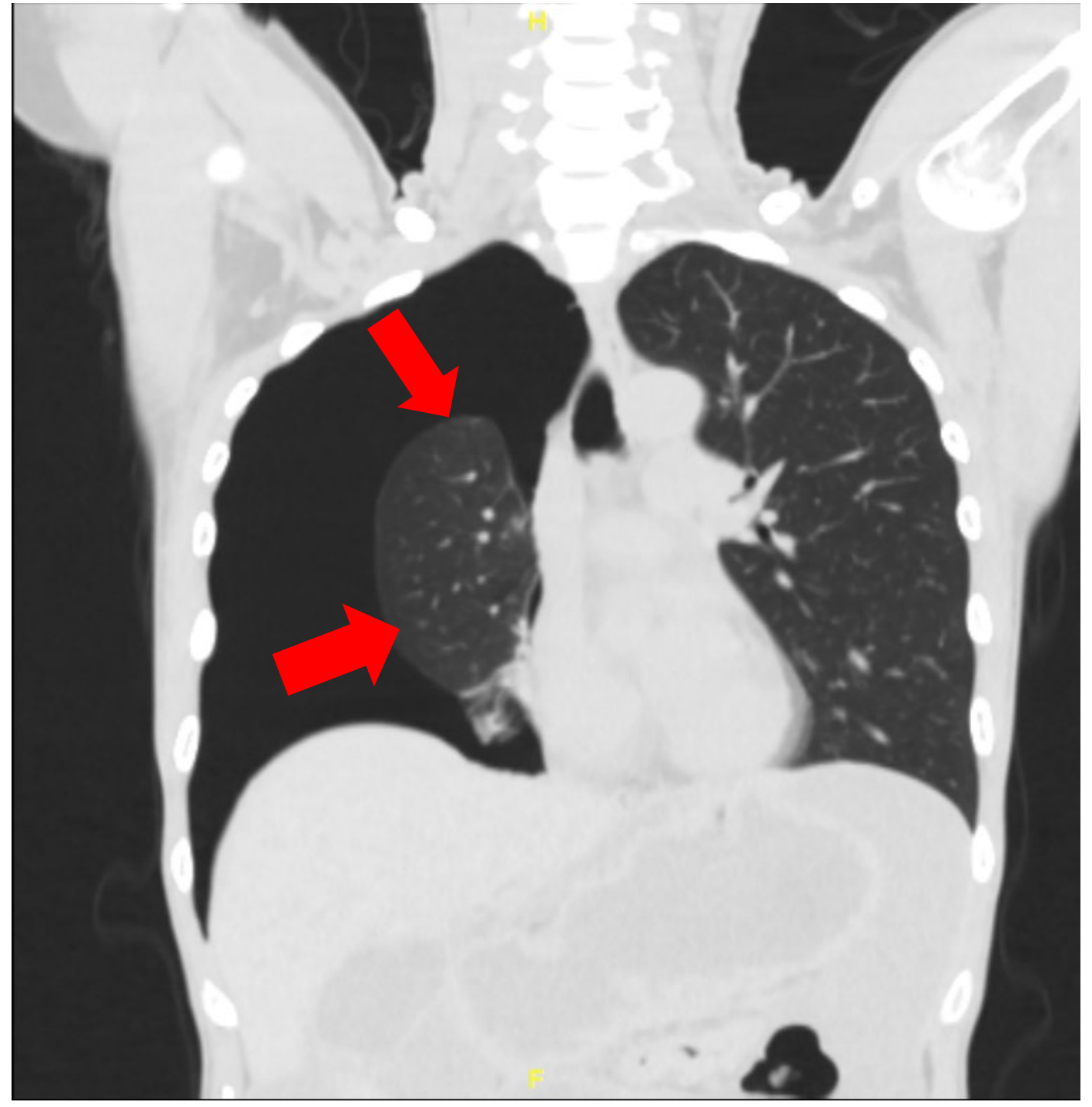
- The patient was a 38-year-old female gravida 0 who presented to the emergency department with complaints of abdominal pain, nausea, vomiting, diarrhea for about 3 weeks with intolerance to both solids and liquids and 15-pound weight loss.
- She reported that her symptoms had been getting progressively worse.
- Her last menstrual period was 3 weeks prior to arrival to the emergency department.
- Her past medical history was significant for isolated spontaneous pneumothorax four years ago, and an extensive history of bowel obstruction for which she underwent small and large bowel resection with re-anastomosis at which time, a diagnosis of endometriosis was made 2 years ago.
- She was started on leuprolide for endometriosis but was lost to follow-up due to the COVID pandemic.
- She denied any other prior medical history or substance use.

Case findings

- In the emergency department, she was hemodynamically stable and not in any respiratory distress, saturating well on room air.
- CT chest subsequently showed large right-sided tension pneumothorax with right lower lobe atelectasis.
- Pelvic ultrasound showed multiple large fibroids.
- Laboratory testing was significant for a CA-125 level of 470 nanograms per milliliter, CEA was normal.



• Figure 1: Chest X-ray showing collapsed Right lung with arrows indicating the visible pleural edge line.



• Figure 2: CT chest showing collapsed Right lung with arrows indicating the visible pleural edge line.

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Case Resolution

- A right chest tube pigtail catheter was placed, with complete resolution of the pneumothorax on repeat imaging.
- She was suspected to have partial small bowel obstruction that resolved spontaneously with conservative management.
- Paracentesis was done with the removal of 1.2 liters of dark red fluid, analysis suggestive of transudate, and cytological analysis was negative for malignant cells but had blood and macrophages.
- Due to a history of recurrent pneumothorax, right video-assisted thoracoscopic surgery, apical wedge, total pleurectomy, and chemical pleurodesis were performed. During the procedure, several bluish discolored implants were noted on the anterior chest wall, diaphragm however was noted to be normal with no fenestrations.
- She was started back on leuprolide monthly injections to be followed outpatient with a fertility specialist.

Discussion

- Catamenial pneumothorax is a rare condition occurring in 3 to 6% of women with spontaneous pneumothorax and is commonly misdiagnosed.
- If present, it is usually associated with pelvic endometriosis.
- Ninety percent of patients present with chest or scapular pain while thirty-three percent have dyspnea.
- In our literature review, only one other case report was found where the patient was completely asymptomatic.
- On the other hand, ascites secondary to endometriosis is a rare phenomenon, of which the first case was reported in 1954 and only approximately 60 cases have been reported worldwide.
- Reported cases have mostly been in African (82%) and nulliparous (85%) women.

- That makes our case very peculiar in that she was Asian and had extensive disease with both catamenial pneumothorax and abdominopelvic disease.
- Early investigation and treatment of pelvic endometriosis are essential for the prevention of thoracic spread.
- Multidisciplinary management, surgical (conservative or radical), and administration of gonadotropin-releasing hormone analogues in the immediate postoperative period, for 6–12 months is essential for all patients with both proven catamenial and abdominopelvic disease. The choice of therapy however will depend on age, severity of disease, and desire for fertility.

Conclusion

- With this case, we intend to highlight the importance of taking thorough history considering the high recurrence rate of catamenial pneumothorax.
- It is also important to have this as a part of the differential diagnosis when a young woman of reproductive age presents with spontaneous pneumothorax.

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