CASE REPORT

Pulmonary Parenchymal Endometriosis: A Diagnostic Dilemma

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Introduction

Intrathoracic endometriosis is a rare condition in women, which presents with the typical history of pneumothorax, chest pain, or hemoptysis coinciding with the menstrual cycle [1]. We present here a rare case of pulmonary parenchymal endometriosis which posed a diagnostic dilemma despite a typical history because of the coexistent pulmonary tuberculosis and hence deteriorated the daily life of a young patient.

Case Report

A 39-year-old patient, para 2, presented to us with multiple episodes of massive hemoptysis since 2002. She described losing about 2 mugs of bright red, non-clotting blood in cough with the onset of most of her menses and complained of a pleuritic type of left-sided chest pain. She often developed recurrent lower respiratory tract infections and had received anti-tubercular treatment (ATT) twice for pulmonary Kochs.

A chest X-ray revealed left lower lobe fibrosis. CECT revealed bilateral tubular bronchiectasis with extensive left lower lobe fibrosis. Fiberoptic bronchoscopy showed oozing of blood from the left lower lobe posterior basal segment (Fig. 1). Bronchoalveolar lavage (BAL) was done but no fungal, malignant, or endometrial tissue could be identified on microscopy.

The BAL specimen showed growth of *Mycobacterium tuberculosis* and she was restarted on ATT for the 3rd time, but she continued to have hemoptysis despite completing the ATT course.

We made a provisional clinical diagnosis of pulmonary parenchymal endometriosis, but considering the massive involvement of the lung, the lung resection itself posed a very high anesthetic risk to her life and the surgery was hence deferred for some time. She was advised Danazol or GnRH therapy, but refused these modalities due to the side effects. We started her on OCP containing desogestrel 0.15 mg and ethinyl estradiol 0.02 mg in a cyclical manner for 21 days. After the very first cycle of OCP use, the amount of blood loss in hemoptysis was drastically reduced and by the 3rd cycle, she was relieved of hemoptysis completely.

We attempted to discontinue OCP use in her about 6 months later, but the hemoptysis recurred within 2 months of discontinuation and hence OCP was restarted. She is now 41 years old and has been on cyclical OCP for the last 2 and half years and is not only relieved of hemoptysis but also had no lower respiratory tract infection during this period.

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Fig. 1 Fiberoptic bronchoscopy

Discussion

Endometriosis is a gynecologic condition that occurs in 6–10 % of women of the reproductive age group [2]. Thoracic endometriosis can occur in the absence of abdominal or pelvic disease. Two types of thoracic endometriosis, that is pleural and parenchymal disease, have been described.

Pleural endometriosis is the more common form. Parenchymal disease is rarely seen and <20 cases have been reported since it was first reported by O. H. Schwarz in 1938 [1, 3]. Parenchymal endometriosis usually manifests as asymptomatic pulmonary nodules, hemoptysis, pneumothorax, or hemothorax during menses. As seen in our case, most of the reported cases have occurred in the third and fourth decades. The incidence of lesions seems higher on the right side, but in our case, the lesion was more prominent on the left side [4].

Fiberoptic bronchoscopy, appropriately timed during the menstrual cycle, is the diagnostic procedure of choice [3]. However, the bronchoalveolar lavage revealed *M. tuberculosis* and no endometrial tissue and hence the diagnostic dilemma; but then, histopathologic confirmation can be obtained in less than one-third of cases due to poorly localized focus of endometrial tissue. Recurrent lower respiratory tract infections in our patient could have been due to secondary infections of the lung parenchyma as

bleeding from the endometriotic patch in the lung served as a nidus for the bacteria including *Mycobacterium*.

Medical therapy has been considered as the first line of treatment in such cases. Most patients show an excellent response while receiving medical treatment, but remission rates after the cessation of therapy vary widely [2]. Our patient refused GnRH or Danazol for treatment. Hence, we started her on OCP. This is a cost-effective mode of treatment with the least side effects and helped our patient to gain weight apart from total relief of the symptoms. We tried to discontinue the OCP in her, but the symptoms recurred.

We now intend to switch her to GnRH agonist for the next 12 months, which should improve her pulmonary reserve further and lower the anesthetic risks such that we can perform TAH with BSO at a later date.

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