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Case Report

Rare Case of Spontaneous pneumothorax- Catamenial pneumothorax from north Karnataka.

Kashinkunti M.D., Dhananjay M

Department of Medicine, SDM College of Medical Sciences and Hospital, Manjushree nagar, Sattur, Dharwad-09. Karnataka (state)

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ABSTRACT

Catamenial pneumothorax is a rare condition with accumulation of air in the pleural space with secondary collapse of lung occurring at the time of menses. First documented in 1958 with an incidence of 3-6% of spontaneous pneumothorax and about 1-1,00,000/year. Usually presents at 3rd or 4th decade and most commonly seen on the right side. There is no single definite etiology for the condition. Catamenial pneumothorax is a rare entity characterized by recurrent accumulation of air in the thoracic space during menstruation usually on the right side. Catamenial pneumothorax is associated with a high rate of recurrence. It has been associated with thoracic endometriosis, yet varying clinical courses and the lack of consistent intraoperative findings have led to conflicting etiologic theories. We report a case of a 18-year-old woman with recurrent bilateral catamenial pneumothorax. She had a history of menstrual-related chest pain and bilateral pneumothorax during hospitalization. When pneumothorax occurs temporally with menstrual cycles, catamenial pneumothorax should be suspected. Video-assisted thoracoscopy is a safer and less invasive modality of therapy.

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1. Introduction

Catamenial pneumothorax is a disease in which a pneumothorax repeats in accordance with the menstruation cycle. Recurrent spontaneous pneumothorax in association with the menstrual cycle was first described by Maurer and colleagues in 1958 and later described as 'Catamenial

Pneumothorax' by Lillington and coworkers in 19721. 'Catamenial' derives from the Greek root meaning monthly. While there are many unknown points regarding the mechanism of its occurrence, however, this disease is assumed to be caused by endometriosis. Endometriosis is defined as an extra uterine growth of endometrial tissue and affects about 5% to 10% of fertile women. Thoracic endometriosis is the most common site of the extra-pelvic localization. It classically involves women in the 3rd or 4th decade of life and occurs within 48 hours from the onset of menstruation. The right lung is involved in the great majority of cases (95%) in a recurrent manner^[2,3].

2. Case Report

18 years old female patient presented with cough with expectoration, since 3 days with sputum being scanty and mucoid with no hemoptysis. Fever since 8 days with chills, intermittent more in the evening not associated with sweating or vomiting and chest pains on the right side since 2 days, pulling type, progressively increasing, aggravates on exertion, deep inspiration and cough, relieves on medication, non radiating, not associated with breathlessness. She recalled that each admission corresponded with the beginning of her menstrual period. On each visit, chest radiograph showed a small right-sided pneumothorax. She has a past history of similar attacks about three times before for which the ICD was put, on investigation was found to have recurrent pneumothorax and CT chest showed recurrent blebs on right side.

On examination a young female, thin built, and moderately nourished, conscious and oriented, was pale with pulse rate 92bpm and BP- 100/60mmof hg. Chest was resonant to percuss on the right side, with reduced breath sounds in the mammary, axillary, infra axillary and infrascapular areas. Normal vesicular breath sounds on left side. Cardiovascular, per abdomen and central nervous system examination were normal.

* Corresponding Author : **Dr.Mohan D Kashinkunti**,
Professor, Department of Medicine,
SDM College of Medical Sciences and Hospital,
Manjushree nagar, Sattur, Dharwad-09. Karnataka (state)
Email: drmohandk@gmail.com

Her investigations revealed Hb-12g/dl, TC-5600cumm, ESR-8 mm, PS was normal. Serial chest X-ray- AP view showed evidence of pneumothorax on right side with pleural collapse. There was partial collapse of left lung with minimal pneumothorax and moderate right side pneumothorax. USG abdomen and pelvis was normal. HRCT of chest showed recurrent blebs on the right side.



3. Discussion

Catamenial pneumothorax is a rare condition with accumulation of air in the pleural space with secondary collapse of lung occurring at the time of menses. First documented in 1958 with an incidence of 3-6% of spontaneous pneumothorax and about 1- 1, 00,000/year. Usually presents at 3rd or 4th decade and most commonly seen on the right side. There is no single definite etiology for the condition. Theories suggest that this condition may be due to

1. Migration of air directly through vagina, uterus, fallopian tubes in peritoneal cavity and thence through diaphragmatic fenestrations into pleural space.
2. Pleural endometriosis- demonstrable implants is seen in about 25%-30%patients
3. Diaphragmatic defect representing as developmental defects.
4. PGF2 alpha mediated vasospasm and bronchoconstriction 2-4

Recurrent pneumothorax occurs within 48-72 hours of onset of menstruation. They present with chief complaints of chest pain and shoulder pain with dyspnea, fatigue and dizziness. May be precipitated by stress or genetic predisposition may be associated with pelvic endometriosis symptoms like congestive dysmenorrhea. Severity depends on amount of pneumothorax and time of presentation.

Catamenial pneumothorax is typically unilateral and predominantly right-sided 2 Chest X-ray findings are nonspecific and vary with menstrual cycle, thus making diagnosis of pulmonary

endometriosis difficult. Computed tomographic findings include opacities, nodular lesions, thin-walled cavities and bullous formations 6. Surgery is frequently needed to establish diagnosis, and more than 60% of patients require thoracotomy or thoracoscopy as part of the diagnostic approach. CA-125, a tumor marker used for several diseases including endometriosis, is helpful for diagnosis and follow up⁷

Treatment includes rest, O² inhalation, needle aspiration, simple intercostal drainage. Although it has been recognized that surgery provides significantly better results as compared with medical treatment alone, the inhibition of sex hormone function by medical treatment is still considered of paramount importance in the treatment of endometriosis^{2,5}. Though it is not known if there is a real need for a medical treatment of isolated thoracic endometriosis after complete resection of lesions, we think that nowadays the association of medical treatment with video-assisted thoracoscopy probably should be considered as the optimal treatment modality for these kinds of patients. If possible, VATS should be performed during the menstrual period to allow visibility of the potential endometriotic lesions⁸.

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