



THORACIC MANIFESTATIONS IN PATIENTS WITH ENDOMETRIOSIS

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Abstract

Background: Endometriosis is a common, benign condition characterized by the presence of endometrial-like glands and stroma outside the uterine cavity. It is estimated that endometriosis affects approximately 6%–10% of reproductive-aged women. Among this population, 12% are estimated to experience endometriosis of nonreproductive organs, referred to as extragenital endometriosis.

Aim: The present study is aimed to evaluate thoracic manifestations in patients with endometriosis.

Material and Methods: A retrospective study proposing to evaluate thoracic manifestations in patients with endometriosis. Participants will be recruited from all patients with endometriosis admitted to obstetrics and gynaecology department Menoufia University Hospitals from September 22 to march 23. The study was conducted on 15 subjects.

Results: The mean age was 34.2 years with mean BMI of 26.31 kg/m². Regarding comorbidities, there was 2 patients were asthmatic, one patient was hypertensive, 3 patients were PSP, and 2 patients had previous surgeries. The most common thoracic manifestation was pneumothorax (73.3%) followed by hemoptysis (13.3%). 80% of the patients had lesions on the right side. 2 (13.3%) patients showed recurrence.

Conclusion: our study we evaluate thoracic manifestations in patients with endometriosis The symptoms and complaints associated with thoracic endometriosis are quite diverse and usually relate to the physiologic function of the ectopic endometrial site.

Keywords: Thoracic Manifestations, Endometriosis

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1. INTRODUCTION

endometrial-like glands and stroma outside the uterine cavity. It is estimated that endometriosis affects approximately 6%–10% of reproductive-aged women. Among this population, 12% are estimated to experience endometriosis of nonreproductive organs, referred to as extragenital endometriosis (Nezhat et al., 2019). The most common site of endometriosis outside of the abdominopelvic cavity is within the thoracic cavity. Endometriosis within the lung parenchyma or on the diaphragm and pleural surfaces produces a range of clinical and radiological manifestations, including catamenial pneumothorax, catamenial hemothorax, catamenial hemoptysis, and pulmonary nodules. Collectively, this is known as thoracic endometriosis syndrome (TES) (Arafah et al., 2021). TES is currently considered to be a manifestation of endometriosis progression. This is evidenced through epidemiological observations demonstrating an older age at onset and coexisting pelvic endometriosis in women with thoracic endometriosis. When compared with a mean age at presentation of 25 to 30 y in patients with only pelvic

endometriosis, the age at presentation of patients with thoracic endometriosis is increased to a mean of 35 y (Mecha et al., 2021). Furthermore, patients typically experience symptoms of pelvic endometriosis approximately 5–7 y before developing symptoms of thoracic endometriosis. Although thoracic disease can occur in isolation, it is usually associated with extensive endometriosis of the reproductive, genitourinary, and gastrointestinal systems. Among patients diagnosed with TES, 50%– 84% have concomitant pelvic endometriosis (Taylor et al., 2021; Nezhat et al., 2019). The present study is aimed to evaluate thoracic manifestations in patients with endometriosis.

2. MATERIALS AND METHODS

A retrospective study proposing to evaluate thoracic manifestations in patients with endometriosis. Participants will be recruited from all patients with endometriosis admitted to obstetrics and gynaecology department Menoufia University Hospitals from

September 22 to march 23. The study was conducted on 15 subjects.

We included patients with endometriosis to evaluate occurrence of thoracic endometriosis in cases.

All patients gave an informed consent. Complete history taking (Personal, familial, obstetric, and gynecological). Complete general evaluation. Complete obstetric and Gynecological evaluation.

All patients with symptoms and signs of pelvic endometriosis were evaluated with laparoscope to confirm endometriosis diagnosis.

All patients were evaluated with laparoscope:

Chest CT was used for detection of thoracic endometriosis occurrence. Chest CT is the modality of choice for thoracic endometriosis, which may demonstrate presence of pneumothorax, hemothorax or nodules which may change in nature cyclically. There may sometimes be vague areas of bronchial

wall thickening, thin-walled cavities, bullous formation or ground glass opacities. CT may also be used to provide guidance for targeted biopsy. Imaging should be carried out during menstruation for higher sensitivity.

ANALYSIS OF THE RESULTS:

IBM-SPSS version 24 was used for data analysis (May 2016). Krustall-Wallis and Wilcoxon's tests, as well as Spearman's correlation and logistic regression analysis, were used to determine statistical significance. Based on the type of data it contained, each variable was analyzed (parametric or not). We considered results statistically significant if the P-values were less than 0.05. (five percent).

3. RESULTS

Table (1): Basic characteristics

	Mean ± SD	Range
Age (years)	34.2 ± 7.86	22 - 48
BMI (kg/m²)	26.31 ± 2.45	19.3 – 30.6
Parity	1.27 ± 0.929	0 – 3
Gravidity	1.8 ± 1.12	0 – 4
Comorbidities	N	%
Asthma	2	13.3%
HTN	1	6.7%
PSP	3	20%
Previous surgery	2	13.3%

This table shows that mean age was 34.2 years with mean BMI of 26.31 kg/m². Regarding comorbidities, there was 2 patients were asthmatic,

one patient was hypertensive, 3 patients were PSP, and 2 patients had previous surgeries.

Table (2): Clinical characteristics

Clinical manifestation	N	%
Pneumothorax	11	73.3%
Hemoptysis	2	13.3%
Hemothorax/hemorrhagic pleural effusion	1	6.7%
Lung nodules	1	6.7%
Laterality		
Right	12	80%
Left	3	20%
Recurrence		
Yes	2	13.3%
No	13	86.7%

This table shows that the most common thoracic manifestation was pneumothorax (73.3%) followed by hemoptysis (13.3%). 80% of the patients had

lesions on the right side. 2 (13.3%) patients showed recurrence.

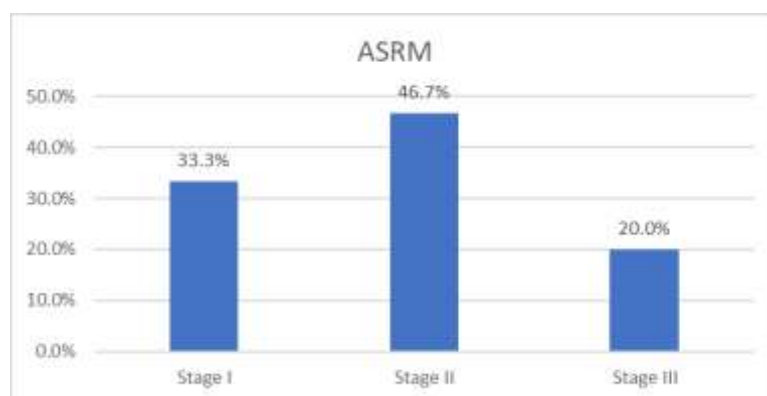


Figure 1. The American Society for Reproductive Medicine Revised Classification of Endometriosis among the studied patients.

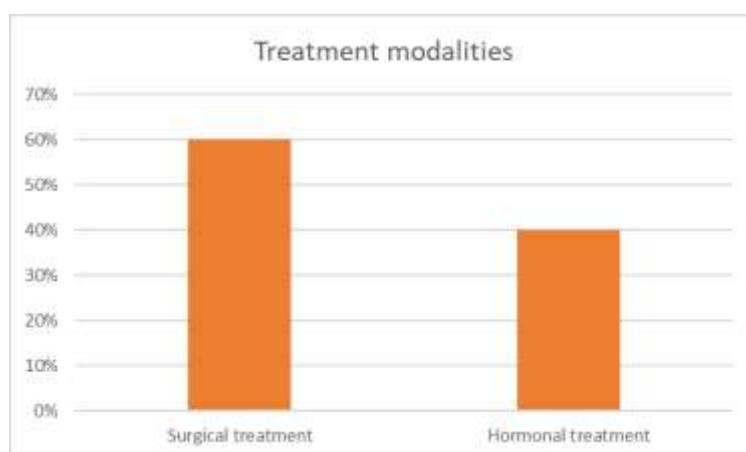


Figure 2. Treatment modalities distribution among the studied patients.

4. DISCUSSION

Thoracic endometriosis syndrome (TES) is one of extra-genital endometriosis, which is characterized by the presence of endometrium-like tissues in the thoracic cavity. Manifestations of TES include: catamenial pneumothorax (CP), catamenial hemothorax, catamenial hemoptysis (CH), and lung nodules **Dogra et al (2020)**. According to a meta-analysis of published cases between 2001 and 2007, the clinical presentation of TES includes pneumothorax (72%), hemoptysis (14%), hemothorax (12%) and lung mass (2%) **Channabasavaiah et al (2010)**.

The current study shows that mean age was 34.2 years with mean BMI of 26.31 kg/m². Regarding comorbidities, there was 2 patients were asthmatic, one patient was hypertensive, 3 patients were PSP, and 2 patients had previous surgeries.

In agreement with our study **Dai et al (2021)**. Who aimed to report TES cases and their effective hormonal treatment and management. They found that the mean age was 30.21 ± 5.40 years (23–42 years).

Also, our results consistent with **Ciriaco et al (2022)**, who aims to analyze our experience with this specific correlation describing our multidisciplinary approach to CP. They found that during the 20-year study, a total of 32 (17%) out of 183 women aged between 18

and 45 years, treated for pneumothorax at our Department of Thoracic Surgery, met the inclusion criteria. The mean age was 35.5 ± 6.3 years (range 21–46).

As well, our results consistent with **Fukuda et al (2018)**. Who aimed to evaluate the clinical features of thoracic endometriosis syndrome (TES) represented by catamenial pneumothorax (CP), endometriosis-related pneumothorax (ERP), and catamenial hemoptysis (CH). They found that the mean age at diagnosis of TES was 34.8 ± 7.3 years, The mean body mass index (BMI) of patients with TES was 19.5 ± 1.9 kg/m².

The current study shows that the most common thoracic manifestation was pneumothorax (73.3%) followed by hemoptysis (13.3%). 80% of the patients had lesions on the right side. 2 (13.3%) patients showed recurrence.

The present study can be supported by **Augoulea et al (2008)**. Who aimed to suppress the hypophyseal-gonadal axis, so as to ensure a regression of the endometrial implants. If medical treatment fails, surgical resection of the endometriomas is suggested, although relapse rate may be high. They found that Catamenial pneumothorax 73%, Catamenial hemothorax 14%, Catamenial hemoptysis 7%, Pulmonary nodules 6%. Also, our results consistent

with **Fukuda et al (2018)**, they found that Catamenial pneumothorax 72%, Catamenial hemoptysis 28%.

5. CONCLUSION

In conclusion our study we evaluate thoracic manifestations in patients with endometriosis The symptoms and complaints associated with thoracic endometriosis are quite diverse and usually relate to the physiologic function of the ectopic endometrial site.

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