

# Thoracic endometriosis syndrome: a systematic literature review

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## INTRODUCTION

Endometriosis affects 10 – 15 % of reproductive-age women [1]. Thoracic endometriosis syndrome (TES) is a rare condition characterized by functional endometrium in lung parenchyma, pleurae and (or) diaphragm [2]. TES usually manifests between the age of 30 – 34; it is later than pelvic endometriosis, which is commonly diagnosed around 24 – 29. Studies show that 50 – 84 % of women with pelvic endometriosis are usually diagnosed with TES within 5 years. Because of these findings the pathogenetic association between these two conditions is undeniable [3]. However, the rarity of this syndrome leads to the late diagnosis and fewer scientific articles.

## METHODS

A systematic literature review was conducted obtaining articles of TES characteristics. The study was performed using online scientific databases (PubMed, Science Direct) with publications selected by keywords: "thoracic endometriosis", "hemothorax", "pathogenesis of endometriosis", etc. An analysis of 28 articles was performed and duplicate or clinically irrelevant articles were removed. 22 full articles have been selected. Most of the studies have been published in the last 5 years, but the citation period was not limited.

## CONCLUSIONS

The pathogenesis of TES is multifactorial. The most accepted explanation is Retrograde Menstruation Theory. The clinical symptoms can range from asymptomatic disease to catamenial pneumothorax as well as depend on the anatomical location of the foci of TES. For diagnosis VATS is considered the gold standard. There is no standard treatment for TES. Combined surgical and postoperative medications are the most commonly chosen. Treatment tactics may depend on the clinical manifestation of the syndrome.

## AIM

To systematically review the latest scientific data concerning pathogenesis, clinic, diagnosis, and treatment of thoracic endometriosis.

## RESULTS

Widely accepted theories of TES pathogenesis are Retrograde Menstruation, Coelomic Metaplasia, Lymphatic and Hematogenous Dissemination, Prostaglandin. Studies indicate that none of the theories fully explain the occurrence of foci of endometriosis, hence, the development of TES is a multifactorial phenomenon [3 - 8]. TES manifests in four different forms depending on location of TES foci: pneumothorax and catamenial hemothorax (pleural lesions), hemoptysis and lung nodules (bronchopulmonary lesions) [3, 5, 9]. Gil et al. suggest that chest radiography and CT are used for diagnosing pneumothorax and hemothorax, while contrast-based CT and MRI are standard for pleural and diaphragmatic lesions diagnosis [10]. Video-assisted thoracoscopic surgery (VATS) is considered the gold standard [5]. In about half of the patients TES and pelvic endometriosis are found together, therefore some authors recommend combining VATS and laparoscopy for the best treatment results [5, 11]. The goal of postoperative medication therapy (GnRH agonists are the most commonly chosen) is to inhibit the production of ovarian steroid hormones and to reduce the recurrence rate of TES [11].