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Case Report

De novo thoracic endometriosis in a menopausal women

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ABSTRACT

Endometriosis is very common in reproductive age group. Since it is an estrogen dependent problem it is generally believed that it denotes “active ovarian function” and is “healed” after menopause. Most commonly endometrial tissue is found in ovaries resulting in the formation of chocolate cysts but it can also be found in extrapelvic sites. In this case report we will discuss endometriosis after menopause. Pulmonary endometriosis is a rare form of thoracic endometriosis. We describe a case of a 54-year-old woman with surgical menopause with recurrent episodes of haemoptysis, chest pain and dyspnea. Her Chest CT revealed multiple small pulmonary nodules. Biopsy from left lung lesion suggested endometriosis.

1. Introduction

Endometriosis is defined as finding of the functional endometrial layer outside the uterine cavity. It is a common gynaecological disease in women of reproductive age group. Its prevalence in the population varies between 0.7% and 44%.[1] The prevalence of endometriosis in postmenopausal women is approximately 2%. This is usually a side effect of HRT. In few reports de novo postmenopausal endometriosis has been described. The most common sites of endometriosis are in the pelvis and especially the ovaries, uterosacral ligaments and round ligaments. Extra pelvic endometriosis is rare and it occurs in 0.03% and 1.7% of women of childbearing age. Extrapelvic endometriosis is rare and usually affect the elderly population, as it takes several years for endometriosis to metastasize outside pelvis. The most common sites are bladder, gastrointestinal tract, lungs, subcutaneous tissue especially after obstetric surgical interventions.[2] The presence of endometrial tissue in the airway, lungs or pleura together constitute the TE syndrome.[3]

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2. Case Report

A 54-year-old woman, Para 2, presented with history of haemoptysis, breathlessness and chest discomfort on and off since three years. Her physical examination was unremarkable and basic laboratory investigations were normal. She was a known case of bronchial asthma for 5 years. Patient was investigated further for haemoptysis. X ray showed radiopaque density in lower zone ? neoplasia. CT thorax showed 3 x 3 x 2.1 cm sub pleural soft tissue density in lateral basal region of lower lobe. Another similar 2.1 x 2.1 cm sized rounded soft tissue density noted in the middle lobe. A tiny 0.7 cm sub pleural nodule noted in left upper lobe posteriorly. Patient had tested negative for mycobacterium tuberculosis. Multiple CT scans were done to note the regression of the nodule. A lung biopsy with immunohistochemistry was done which was s/o thoracic endometriosis with ER, PAX 8, D -10 positive.

Patient had prior surgical history of 2 LSCS, dilatation and curettage with cervical biopsy and a total abdominal hysterectomy (preserving bilateral tubes and ovaries). HPE s/o: benign endometrial polyp with leiomyoma and adenomyosis, cervix shows papillary cervicitis and

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squamous metaplasia, no atypia. Hormonal treatment with dinogest and GnRH analogues tried but patient had no relief. USG showed atrophic left ovary and normal right ovary. A decision was then taken to do a laparoscopic bilateral salpingo oophorectomy to cause suppression of the endometriotic tissue. Ethical approval and patient consent was taken.

3. Discussion

Endometriosis is a condition which affects the pelvic organs, but it can also occur outside the pelvis.[4,5] Thoracic endometriosis syndrome (TES) is an uncommon entity in which endometrial implants are located in airways, pleura and lung parenchyma.[2,6,7] It is characterised by pneumothorax, haemothorax, haemoptysis during menstruation and also pulmonary nodules.[2,8] The presence of these symptoms in the absence of menstrual function often delays the diagnosis in postmenapausal women.

In thoracic endometriosis, around 73% of the patients present with menstrual pneumothorax, 14% present with menstrual haemothorax, 7% of patients with haemoptysis and 6% have lung nodules.[9] TES is also associated with pelvic endometriosis and infertility.[6] In our case, the patient did not have any past medical history of pelvic endometriosis but had multiple episodes of hemoptysis, breathlessness and chest pain after surgical menopause.

Several theories have been proposed for development of Thoracic endometriosis.[4,7,8,10,11] The first theory suggests that haematogenous or lymphatic embolization of endometrial tissue may occur from the uterus.[4,7,8,11,12] Another theory is coelomic metaplasia,[4,8,10–12] and the third theory could be retrograde menstruation which involves migration of endometrial tissue from the uterus and fallopian tubes through abdomen and through the congenital or acquired diaphragmatic defects into the pleural cavity.[7,8,10–12] There is also an estrogen threshold theory for endometriosis in postmenopausal women. It states that transient foci of endometriosis are activated when a certain level of estrogen is reached or exceeded in a postmenopausal women. Exogenous sources like phytoestrogens are also known to have positive influence of the endometriotic lesions present in the body.[13] The diagnosis of thoracic endometriosis syndrome often gets delayed as it is very rare. The main symptoms of thoracic endometriosis are dyspnoea, cough, Chest pain, haemoptysis, and scapular pain.[4] These symptoms start usually a day prior to the onset of menstruation and last till 2-3 days of menstruation.[8] The symptoms can be observed in between the periods.[4] Similar symptoms are seen in patients of pulmonary malignancy or tuberculosis and can be misleading.[4] Physical examination is suggestive of diminished or absent breath sounds on the affected side.[2] Diagnosis of thoracic endometriosis can be determined by Imaging studies[2,3,8] and histopathological examination.[3] Usually non specific findings of pleural effusions, pneumothorax or pulmonary nodules may be seen on chest x-ray.[2] Chest x-ray may also be normal.[3] Ultrasonography has an important role in diagnosis of endometriosis,[1] as TE may be associated with abdominal and pelvic endometriosis. In our case, the patient had complaints of chest pain and shortness of breath. Her chest x-ray revealed radiopaque density in left lower zone ? neoplasia. CT scan although poorly specific is the preferred imaging modality.[14] It may be suggestive of single/multiple nodular lesions or endometrial implants (as hypo-attenuating areas) or ground-glass infiltrates.[2,3] Chest CT is mainly helpful in ruling out other pulmonary diseases.[14] For detection of TE, MRI demonstrates hyperintense lesions of endometriosis on T1- and T2-weighted images and is a superior modality compared to chest CT.[7,15] In our case, a CT thorax was performed. It revealed multiple small nodules in the left lung.

The treatment of TES can be medical, surgical or combined. The definitive treatment for systemic endometriosis is Total abdominal hysterectomy with bilateral salpingo oophorectomy. For medical treatment we use gonadotropin-releasing hormone (GnRH) agonists which suppresses the estrogen secretion from the ovaries.[2,3,10]

When medical treatment fails, surgical treatment like standard thoracotomy, wedge resection for ectopic lung endometrial implants or limited lung segmentectomy can be considered.[2,7,16] In our case we did a laparoscopic bilateral salpingoophorectomy for suppression of estrogen production. There was no recurrence of hemoptysis later on followup.

4. Conclusions

We conclude that the diagnosis of TES often gets delayed and is complicated. We should suspect TES in reproductive age group women with exacerbating respiratory symptoms during menstruation. Medical treatment for TES should be started when possible. If it fails, then surgery should be considered. Endometriosis not only affects reproductive age group women but can be seen in premenarchal and postmenopausal women as well. Our case report shows TES may occur in postmenapausal women. TES may at times get complicated into either massive bleeding or pneumothorax which can even cost a patient's life.

5. Author Contributions

All authors contributed in writing the case report.

6. Source of Funding

None.

7. Conflict of Interest

None.

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