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Case Report

Post Surgical Anterior Abdominal Wall Mass as a Sequela of Endometriosis

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Abstract

Endometriosis is a clinico pathological condition which can be associated with significant morbidity and its attendant complications. The disease can present with diverse manifestations. The causes and mechanisms can be varied. The Clinicians and Pathologists should be aware of the natural history and course of disease so that the patients can be counselled with regards to prognosis and management of disease. This study is an attempt to reinforce the Medical fraternity with updated scientific information of Endometriosis. Various Clinico-Pathological methods are described for accurate prompt and early diagnosis of Endometriosis, so that vulnerable patients are benefitted.

Keywords: Endometriosis, pathological, disease.

INTRODUCTION

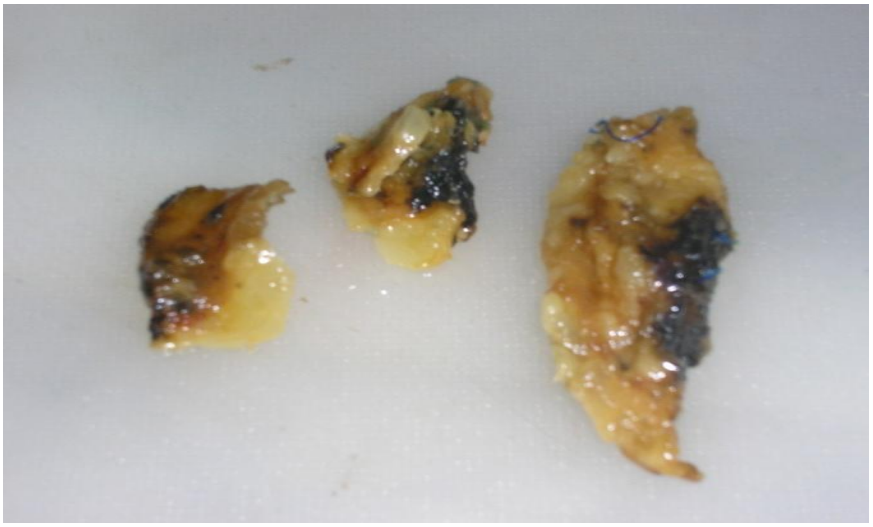
Endometriosis is described as occurrence of usual endometric tissue embedded in unusual locations other than the lumen of Uterus [1]. Depending on the site involved Endometriosis characteristically can be Interior to or Exterior to Pelvis. The Intra Pelvic embedded locations include ovaries, fallopian tubes, True pelvis, Pouch of douglas, Uterosacral ligaments. Ectopelvic locations can be varied and include wall of Abdomen, vulva, vagina, cervix, Perineal and operative scars, inguinal canal, Urinary, gastrointestinal tract, thorax, diaphragm, Central/peripheral Nervous system and olfactory mucosa, liver and lymph nodes of pelvis and inguinal area, breast. The ovary is the most common site of intra pelvic Endometriosis while gastrointestinal tract is most likely involved extra pelvic site with sigmoid and Rectum as common locations [2].Chronic pelvic pain is most common symptom of Pelvic Endometriosis and Pain during bowel movement is common presenting feature of extra pelvic type [3]. It is more common in 3rd decade of female reproductive age. The prevalence of disease can range from 10-30% [4].

Latest literature points to correlation and development of certain cancers like ovarian cancer [Endometriod and Clear cell carcinoma], Brain Neoplasia and Lymphoma of Non Hodgkinstype. The disease can be often associated with Leiomyoma, Adenomyosis and other Autoimmune conditions [5].

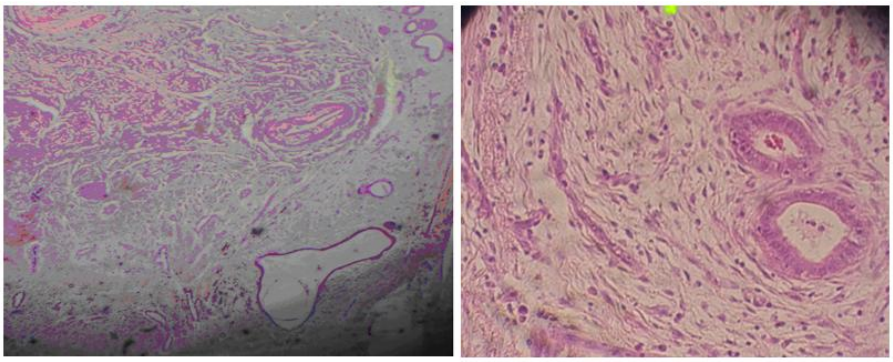
Case Report

A 37 year old female presented to hospital with post surgical abdominal wall mass of 1 month duration and the surgeon made differential diagnosis of suture granuloma and abdominal wall abscess and subjected the mass to excision biopsy.

Pathological examination-Gross exam-shows 4x3x2 cm fibrofatty tissue with focal brown to black haemorrhagic area and sutured area at one end of specimen. Microscopic Examination-revealed endometrial glands and stroma surrounded by fibro collagenous tissue and diagnosis of Endometriosis of Anterior Abdominal Wall Is Made.



Fibrofatty tissue with focal brown to black haemorrhagic area and sutured area at one end of specimen



Endometrial Glands and Stroma Surrounded By Fibro Collagenous Tissue

DISCUSSION

Endometriosis is a multifactorial disorder which occurs due to combination of environmental and genetic factors [6]. Environmental factors which are associated with disease can be due to exposure to dioxins, alcohol, while family history suggests genetic role. Other factors which can be related to disease arepelvic/abdominal surgery and h/o infertility, oligomenorrhea, polymenorrhea, and menorrhagia [7]. Multiple hypothesis have been put forward to explain the mechanism of endometriosis .The role of particular mechanism in genesis of disease seems to be related to the exact site of disease. In Pelvic Endometriosis Retrograde menstruation appears to play greater role as noted by increased prevalence of the condition in females with h/o menstrual irregularities such as oligomenorrhea, polymenorrhea and menorrhagia along with intercourse during menstrual period [8]. Inmetaplastic theory pelvic coelomicmullerian epithelium transforms to endometrial tissue,the evidence for this mechanism is derived by the fact that the Endometriosis is noted in females with absent menstruation [in Mayer-Rokitansky Küster-Hauser (MRKH) syndromethere is lack of Uterus /Vagina or primitive Uterus along with presence/absence of physiological endometrium],those with defective fallopian tubes, Persistent Mullerian duct syndrome [PMDS] and in males with prostatic carcinoma who are exposed to therapeutic estrogen. The theory of induction suggests the role of both Retrograde menstruation and Coelomic metaplasia [9]. Role of Estrogen in Endometriosis is exemplified by the fact that endometriotic tissue is dependent on Estrogen for its survival and growth as noted by relative increase in Estrogen in Endometrial tissue by PGE2 dependent raised biosynthesisand reduced metabolism of Estradiol which is due to increased StAR, Aromatase and decreased HSD17B2 [10]. Endometriosis is regarded as chronic inflammatory disease as there is ample evidence for role of inflammation in mechanism of Endometriosis. Inflamma-tion leads to Adhesion, tissue and vascular proliferation and Invasion which contributes to sustainence of Endometriotic tissue and its symptoms. These features are due to Activated Macrophage and its products [IL-1β/,TNF-α,IL-6/8],controlled by Leptin. Increased levels of Macrophages and Leptin is seen in Endometriotic tissue along with raised COX2 and symptoms are alleviated upon treatment with COX 2 inhibitors [11]. Presently evidence suggests the role for defective immunity in pathogenesis of Endometriosis as seen by reduced NK cell activity due to increased IL-10 [12]. Decreased Apoptosis has been observed in patients with Endometriosis as seen by increased expression of

Antiapoptotic BCL-2 and IAP Proteins in Endometriotic tissues [13]. A variety of Epigenetic changes could influence the biology of Endometriosis. These include (DNA methylation, histone modifications, changes in miRNA). Many studies have proved the role of miRNA [altered expression] in the genesis maintenance and progression of Endometriosis [14]. Altered stimulation of WNT/βcatenin pathway is an additional contributory mechanism, which leads to increased βcatenin and decreased E-Cadherin, which is responsible for survival and growth of Endometriotic tissue [15]. The role of Stem cells in Endometriosis is studied which shows the presence of and increased expression of stem cell markers [Oct-4,NANOG and SALL4] in Endometriotic tissues [16].

Pathological features of Endometriosis is distinct. On Gross inspection disease presents as multiple nodules or small, dark red, black or bluish cysts [chocolate cysts], the appearance can change over the time. Microscopically there is presence of endometrial-like glands, spindled endometrial stroma and Hemosiderin deposition either within the macrophages or in thestroma. The clinical presentation depends on the site involved, with Pelvic Endometriosis manifesting as Acute/chronic pelvic pain, lower abdominal pain, irregular menses, failure to conceive, dyspareunia, painfulmenses. Where as GI tract involvement presents with diarrhea, bleeding per rectum related to menses and painful defecation, symptoms of obstruction and urinary tract disease manifests with blood in urine related to menses, pain and occlusive symptoms, where as scar Endometriosis presents as bleeding at site related to menses and pain .Pulmonary disease presents as Haemoptysis in relation to menstrual cycle. Other sites can present as cyclical bleeding and pain [17]. On Physical examination tender nodules are noted [17]. Staging of Endometriosis is vital to disease management and prognosis. Stage 1 disease shows few implants in superficial area with minimal adhesion. Stage 2 shows many implants in deep areas with few more adhesions. Stage 3 minute blue black or brown red cysts on ovaries with multiple nodules in deeper areas along with greater adhesions. Stage 4 big blue black or brown red cysts with multiple nodules in most deep areas and severeadhesions [adhesion of rectum beneath uterus [18]. Symptoms occurring 1-3 days in relation to menses is suggestive of Endometriosis, which can be further evaluated with imaging studies .The most definitive method of diagnosis of Endometriosis is by Diagnostic Laparoscopy, which should be confirmed by Biopsy. Screening of patients with suggestive clinical features can be done by Imaging which can give information about extent of disease and offer differential diagnosis. On trans vaginal Ultra sound disease appear as isolated hypoechoic and homogenous lesions, but MRI is relatively more specific but less sensitive method [19]. Screening of disease can be performed with CA-125, CRP, IL-6, IL-8, TNF-α CA19-9. CA-125 can be used in patients with infertility in whom Endometriosis can be identified so that treatment can be initiated. These markers appear to be elevated during time of Menses, in patients with Endometriosis [20]. Complications of Endometriosis can be diverse, organ specific and related to rupture of fibrin/iron rich cysts and development of fibrous adhesions which can lead to obstructive symptoms and in pelvis manifests as pain and infertility [21]. Obstetric complications include premature rupture of membranes and predisposition to placenta praevia [22].

CONCLUSION

Endometriosis is a disease with myriad clinical presentations. The clinician and pathologist should be vigilant and show a degree of suspicion in identifying the characteristic symptoms and signs of disease that can prompt for appropriate further investigations so that the condition can be diagnosed at the earliest and treatment can be initated to prevent further complications of disease and improve prognosis.

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