

Clinical and Pathological Findings of Suspected Cases of Peritoneal Endometriotic Lesions

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ABSTRACT

Objective: The purpose of this study is to determine the clinical and pathological findings of suspected cases of peritoneal endometriotic lesions.

Study Design: Cross-sectional/Observational study

Place and Duration: Shaikhzaid women hospital larkana, From: Jan, 2021 to June, 2021

Methods: There were 88 females were presented in this study. Females were aged between 18-55 years. Informed permission was obtained before obtaining demographic information such as age, BMI, and symptoms. Included patients had confirmed peritoneal endometriotic lesions. All the suspected cases of peritoneal endometriotic lesion were underwent for biopsies. Numerous endometriotic biopsies were analyzed using mixed effects logistic regression in order to account for various patients and multiple endometriotic gland patterns. Pathological and clinical outcomes among cases were measured. We used SPSS 21.0 to analyze complete data.

Results: Among 88 cases, 30 (34.1%) were aged between 18-28 years, 37(42.05%) were aged between 29-38 years and the rest were 21 (23.9%) were aged > 38 years. Mean BMI of the females was 23.2±14.25 kg/m². Dysmenorrhea was the most common symptoms found in 32 (36.4%) cases, followed by deep dyspareunia in 26 (29.5%) cases, chronic pelvic pain in 18 (20.5%) cases and painful defecation in 12 (13.6%) cases. Frequency of endometriosis was 40 (45.5%) by pathological findings. Majority was undiagnostic biopsies among 58 (65.9%) cases and diagnostic biopsies were among 30 (34.1%) cases. Among undiagnostic biopsies, chronic inflammation found in 18 (31.03%), dystrophic calcifications in 15 (25.9%) cases, hemosiderin-laden macrophages (HLM) in 13 (22.4%) cases, vascular proliferation 10 (17.2%) and adhesions were 10 (17.2%). HLM (P=0.002) and pseudodecidualization (P=0.03) were more often seen in diagnostic biopsies (P=0.05) as were blue/black clinical appearances (P=0.03).

Conclusion: We found that individuals with a strong clinical suspicion of endometriosis show a variety of histologic abnormalities, with fewer than half satisfying current histopathologic criteria. Given the diverse histopathologic appearance, more study may be necessary, especially for lesions with primarily vascular characteristics.

Keywords: Peritoneal Endometriotic Lesions, Symptoms, Endometriosis, Biopsy, HLM

INTRODUCTION

As mysterious as ever, endometriosis remains. Its underlying origin is still a mystery to us, as are the many guises it takes to exhibit itself in the world. When it comes to women's health, endometriosis may either be an accidental discovery in asymptomatic women or a problem so severe that it has a devastating effect on their lives. Simple and self-evident diagnosis of the size and location is possible, as is diagnosis that is very difficult. An inexpensive treatment may be as pricey as you want it to be. Most instances may be treated with mild analgesics and/or basic hormone treatment, however in certain situations substantial extirpative surgery is required. An operation to treat a patient may be quick or take many hours. In such a state of disarray, the inappropriate treatment choice is often selected. [1,2]

As a result of recent studies, many experts believe that endometrial lesions may be diagnosed by looking at their surface, and this is where most of our current understanding of this illness is based. Gynaecologists are familiar with the appearance of "red" and "black" endometrial implants distributed over the abdominal wall. This style of presentation is recognised by everyone involved in the care of endometriosis. The invasion of deep pelvic tissues by a hard, nodular lesion is another well-documented but clinically underappreciated sign of endometriosis. It might be difficult to compare data and outcomes when both phenotypes are gathered under the same all-inclusive label. [3]

This disease's pathophysiology has been disputed in recent years. As a result, although Sampson's notion that the illness is caused by the regurgitation of menstrual endometrium backwards via fallopian tubes during menstruation is largely recognised, the role of retrograde menstruation in the development of deep endometriosis has lately been debated. While certain kinds of deep endometriotic lesions should be called nodules, the

pathophysiology of at least part of these nodules is linked to the metaplasia of Müllerian remains (Nisolle and Donnez, 1997). [4] On descriptive grounds, deep endometriosis significantly resemble adenomyosis. This is the most crucial reason to support this view. Histologically, the illness manifests as a nodular lesion with islands or strands of glands and stroma, which is made of dense fibrous and smooth muscle cells. It is usual for people with endometriosis to need extensive medical and surgical therapy, which carries significant expenses and risks. It takes an absurdly long time (8–12 years) for endometriosis to be recognised and treated, despite the fact that it is highly prevalent and causes major morbidity in individuals who have it. [5,6]

When symptoms are not specific and non-invasive diagnostics can't be used to provide a definitive diagnosis, it's difficult to determine the cause. Our research group has recently uncovered several prospective molecular diagnostic markers for endometriosis, and investigations are under ongoing to possibly validate the diagnostic validity of these markers. [7-9] Only histological evaluation of ectopic implants collected via invasive surgical or laparoscopic techniques can now provide an accurate diagnosis for endometriosis. These and other issues make it an economically and socially significant illness that has a negative influence on women's job and personal lives as well as their relationships with their doctors. [10,11]

Pathogenetic mechanisms that produce this illness are still poorly understood, and this is why there are no conclusive diagnostic or treatment options available. [12] Clinical and pathological findings of probable peritoneal endometriotic lesions are to be examined in this article.

MATERIAL AND METHODS

This cross-section/observational study was conducted at Shaikhzaid women hospital larkana, From: Jan, 2021 to June,

2021 and comprised of 88 females. Informed permission was obtained before obtaining demographic information such as age, BMI, and symptoms. Females with severe other medical illness and those did not give any written consent were excluded from this study.

Females were aged between 18-55 years. Histologically proven peritoneal endometriosis penetrating at least 5 millimetres under the peritoneal surface was characterized as deep endometriosis. The explanations of the anatomical pelvic condition and surgical techniques in our department are quite thorough. Specifically, the abdominal position, uterus, right ovary, right tube, left ovary, left tube, Douglas cul-de-sac, vesico-uterine cul-de-sac, other peritoneal sites, tube patency measured by salpingo-cromoscopy, and other notes are required. In addition, a systematic anatomical scenario drawing is created in our unit. Written and pictorial descriptions of adhesions were not matched, or if an infective aetiology was suggested. Unless there was another explanation, adhesions were assumed to be of an endometriotic origin. Deep endometriotic nodules had their diameter measured during a histological investigation or, in cases where surgical removal was not possible, during surgery itself. Surgery to remove the complete or portion of an endometriotic cyst was always followed by a microscopy to confirm the diagnosis. Endometriotic lesions were only removed and histologically examined if there was any dispute about their endometriotic character. Otherwise, they were electro-coagulated throughout the procedure. Numerous endometriotic biopsies were analyzed using mixed effects logistic regression in order to account for various patients and multiple endometriotic gland patterns. Pathological and clinical outcomes among cases were measured. We used SPSS 21.0 to analyze complete data.

RESULTS

Among 88 cases, 30 (34.1%) were aged between 18-28 years, 37(42.05%) were aged between 29-38 years and the rest were 21 (23.9%) were aged > 38 years. Mean BMI of the females was 23.2±14.25 kg/m².(table 1)

Table-1: Characteristics of enrolled females

Variables	Frequency	Percentage
Age group (years)		
18-28	30	34.1
29-38	37	42.05
>38 years	21	23.9
Mean age (years)	33.5±6.46	
Mean BMI (kg/m ²)	23.2±14.25	

Dysmenorrhea was the most common symptoms found in 32 (36.4%) cases, followed by deep dyspareunia in 26 (29.5%) cases, chronic pelvic pain in 18 (20.5%) cases and painful defecation in 12 (13.6%) cases.(figure 1)

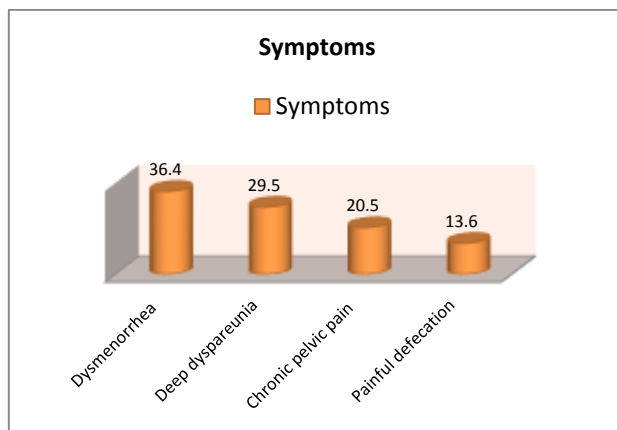


Figure-1: Enrolled females with symptoms

Frequency of endometriosis was 40 (45.5%) by pathological findings.(figure 2)

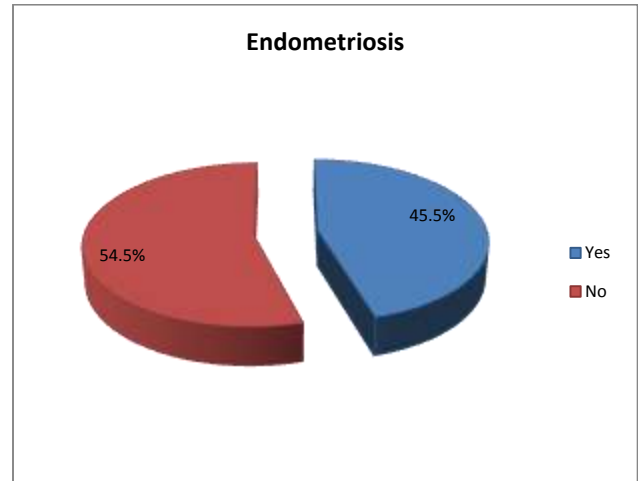


Figure-2: Pathological finding of endometriosis

Majority was undiagnostic biopsies among 58 (65.9%) cases and diagnostic biopsies were among 30 (34.1%) cases.(table 2)

Table-2: Type of biopsies among all cases

Variables	Frequency	Percentage
Type of Biopsy		
Diagnostic	30	34.1
Undiagnostic	58	65.9
Total	88	100

Among undiagnostic biopsies, chronic inflammation found in 18 (31.03%), dystrophic calcifications in 15 (25.9%) cases, hemosiderin-laden macrophages (HLM) in 13 (22.4%) cases, vascular proliferation 10 (17.2%) and adhesions were 10 (17.2%). HLM (P=0.002) and pseudodecidualization (P=0.03) were more often seen in diagnostic biopsies (P=0.05) as were blue/black clinical appearances (P=0.03).(table 3)

Table-3: Biopsies findings among all cases

Variables	Frequency	Percentage
Undiagnostic Biopsy		
chronic inflammation	18	31.03
dystrophic calcifications	15	25.9
HLM	13	22.4
vascular proliferation	10	17.2
adhesions	10	17.2
Diagnostic Biopsy		
HLM	17	56.7
pseudodecidualization	15	50
blue/black clinical appearances	12	40

DISCUSSION

This study displays a lot of endometriosis characteristics that have been documented in the literature, and the atypical histology results in the retroperitoneal lymph node are particularly intriguing. The 'lymphatic emboli' idea of endometriosis and its relation to the 'clinically aggressive presentation,' 'isolated ovarian character,' and other aspects of the illness will be examined.

The endometrioma on her right side recurred within three months of the previous laparoscopic drainage and diathermy procedure, which was rare. The Cochrane study and the ESHRE recommendations on surgical therapy of endometriomas do not propose laparoscopic drainage for endometriomas since re-accumulation is known to occur. However, the rapidity with which this happened raised doubts regarding the cyst's nature.[13,14]

There were 88 females presented. Among 88 cases, 30 (34.1%) were aged between 18-28 years, 37(42.05%) were aged between 29-38 years and the rest were 21 (23.9%) were aged > 38 years. Mean BMI of the females was $23.2 \pm 14.25 \text{ kg/m}^2$. Results of our research showed resemblance to the previous studies.[15,16] In the past decade, multiple investigations have shown that endometriotic nodules contain new nerve fibres that may play a role in the development of pain. [17,18] Based on the results of a histological investigation by Anaf et al., individuals with DIE who had more acute pain had a larger density of nerve fibres inside the fibrotic endometriotic lesions. Patients with more severe pain had endometriosis that had invaded the nerves (intraneural invasion) as well as the areas around the nerves (periauricular invasion) (perineural invasion). [19] In our study, dysmenorrhea was the most common symptoms found in 32 (36.4%) cases, followed by deep dyspareunia in 26 (29.5%) cases, chronic pelvic pain in 18 (20.5%) cases and painful defecation in 12 (13.6%) cases.

Majority was undiagnostic biopsies among 58 (65.9%) cases and diagnostic biopsies were among 30 (34.1%) cases. Study conducted in 2021 presented same findings.[20] Among undiagnostic biopsies, chronic inflammation found in 18 (31.03%), dystrophic calcifications in 15 (25.9%) cases, hemosiderin-laden macrophages (HLM) in 13 (22.4%) cases, vascular proliferation 10 (17.2%) and adhesions were 10 (17.2%). HLM ($P=0.002$) and pseudodecidualization ($P=0.03$) were more often seen in diagnostic biopsies ($P=0.05$) as were blue/black clinical appearances ($P=0.03$).[20,21] The peritoneal implants' wide range of variations complicates diagnosis further. According to a research by Jansen and Russell, which evaluated 137 laparoscopic biopsy specimens, non-pigmented peritoneal lesions with endometriosis-like histological features are of clinical concern. These included white opacification, red flame-like lesions (81 percent), and glandular lesions, all of which were usually endometriotic (67 percent). According to their investigation, endometriotic adhesions (50 percent), yellow-brown peritoneal patches (47 percent), and circular abnormalities (45 percent) were not prevalent.[22] In the literature, there have been reports of both microscopic forms that don't create any abnormalities on the peritoneal surface and visible endometriotic implants that are extremely tiny or visually normal lesions.[23] However, despite the fact that majority of these lesions are asymptomatic, they have previously been linked to certain symptoms including persistent pelvic discomfort and unexplained infertility. These approaches include 'peritoneal blood painting and the bubble test.' Despite the fact that these procedures have been used to diagnose endometriotic lesions that were not immediately visible by laparoscopy, they are still being debated as to whether or not they are necessary. [24-26].

As a result of the severity of the illness, individuals with endometriosis should have their treatment coordinated via a single centre to provide a patient-centered approach that is customised to each patient's individual needs and preferences.

CONCLUSION

We found that individuals with a strong clinical suspicion of endometriosis show a variety of histologic abnormalities, with fewer than half satisfying current histopathologic criteria. Given the diverse histopathologic appearance, more study may be necessary, especially for lesions with primarily vascular characteristics.

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