ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

Assessment of Ultrasonographic findings of ovarian endometriosis

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Abstract
Background: Endometriosis is defined as the presence of endometrial tissue outside the uterus. Hence; under the light of above mentioned data, the present study was undertaken for characterization of ovarian endometriosis on ultrasonography. **Materials & methods:** A total of 20 patients with suspected endometriosis who have been advised the imaging investigation by the treating doctor were enrolled. The radiological process and logistics were explained to the patients and informed consent was taken from each patient. The examination was done with the patient in supine position and if transvaginal scan was indicated. A detailed transvaginal ultrasound scan was done to assess the pelvic organs and to diagnose and look forfeatures of endometriosis. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software. **Results:**Inter-menstrual bleeding, Cyclical Dysmenorrhea and Dyspareunia were the seen in 60 percent, 55 percent and 60 percent of the patients respectively.Dysuria, Pain before menstruation begins and Infertility was seen in 45 percent, 50 percent and 40 percent of the patients respectively. On ultrasound evaluation, Thick walled cyst with lower level echoes, Hyperechoic wall foci and Dependent fluid levels were seen in 90 percent, 60 percent and 45 percent of the patients respectively.**Conclusion:**From the above results, the authors concluded that for initial screening of the patients, USG is useful.
Key words: Ovarian Endometriosis, Ultrasonographic

INTRODUCTION

Endometriosis is defined as the presence of endometrial tissue outside the uterus. Most commonly, endometriosis affects the ovaries, pelvic peritoneum, uterosacral ligaments, fallopian tubes, and broad ligaments. Unfortunately, extragenital implants of endometriosis can be spotted virtually in any other pelvic compartment; in fact, extra-pelvic foci of ectopic endometrial tissue have been described in almost every organ and tissue of the body. Extra-pelvic endometriosis remains an unclear clinical entity with an unknown prevalence, due to the absence of rigorously conducted epidemiological studies and a lack of consensus with regards to a gold standard diagnostic technique. Endometriosis is characterized by a highly variable clinical presentation given the multiple areas that can be involved. Hence, clinicians should be aware of the fact that any symptom affecting extra-pelvic sites and described by a patient of child-bearing age as “cyclical” might be a possible indicator of endometriosis and deserves further investigation.[1- 3]
Ultrasonography is the first-line imaging technique for the initialevaluation of suspected endometriosis. However, evaluationis generally limited to the detection of endometriomas involving the ovary, with very poor sensitivity for identifyingfocal implants elsewhere.[4]The reference standard for the diagnosis of pelvic endometriosis is laparoscopic biopsy of lesions with a suspicious appearance, followed by histologic confirmation.[5] Hence; under the light of above mentioned data, the present study was undertaken for characterization of ovarian endometriosis on ultrasonography.

MATERIALS & METHODS

The present study was undertaken for characterization of ovarian endometriosis on ultrasonography. A total of 20 patients with suspected endometriosis who have been advised the imaging investigation by the treating doctor were enrolled. All the collected data was analysed using appropriate formula and method with the help of a statistician.

Inclusion Criteria:

- All women who were suspected cases of endometriosis after initial clinical evaluation
- Patients diagnosed to have endometriosis by other investigations or imaging modalities

The radiological process and logistics were explained to the patients and informed consent was taken from each patient. The examination was done with the patient in supine position and if transvaginal scan was indicated. A detailed transvaginal ultrasound scan was done to assess the pelvic organs and to diagnose and look forfeatures of endometriosis. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software.

RESULTS

60 percent of the patients belonged to the age group of 31 to 40 years while 25 percent of the patients belonged to the age group of 41 to 45 years. Mean age of the patients was 34.6 years.

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

Inter-menstrual bleeding, Cyclical Dysmenorrhea and Dyspareunia were the seen in 60 percent, 55 percent and 60 percent of the patients respectively.Dysuria, Pain before menstruation begins and Infertility was seen in 45 percent, 50 percent and 40 percent of the patients respectively. On ultrasound evaluation, Thick walled cyst with lower level echoes, Hyperechoic wall foci and Dependent fluid levels were seen in 90 percent, 60 percent and 45 percent of the patients respectively.

Table 1: Age-wise distribution of patients

Age group	Number of patients	Percentage of patients
18 to 20	1	5
21 to 30	2	10
31 to 40	12	60
41 to 45	5	25
Total	20	100
Mean ± SD	34.6 ± 8.4	

Table 2: Distribution of patients according to clinical profile

Clinical profile	Number of patients	Percentage of patients
Inter-menstrual bleeding	12	60
Cyclical Dysmenorrhea	11	55
Dyspareunia	10	60
Dysuria	9	45
Pain before menstruation begins	10	50
Infertility	8	40

Table 3: USG findings of ovarian endometriosis

USG finding	Number of patients	Percentage of patients
Thick walled cyst with lower level echoes	18	90
Hyperechoic wall foci	12	60
Dependent fluid level	9	45

DISCUSSION

Endometriosis is defined as the presence of endometrium in an abnormal or ectopic location. Histologically, it is the presence of endometrial-like tissue or glands outside the uterine cavity. It is a gynecological disorder dependent on hormones observed most commonly in reproductively active women. The ectopic endometrial tissue responds to hormonal stimulation and undergoes cyclic growth and shedding. Without a way to drain, this causes internal accumulation of blood. Endometriosis is associated often with dyspareunia, cyclic menstrual pain, and pelvic pain. These painful episodes can have a negative effect on the quality of life of patients with this condition experience.[6- 9]Hence; under the light of above mentioned data, the present study was undertaken for characterization of ovarian endometriosis on ultrasonography.

In the present study, 60 percent of the patients belonged to the age group of 31 to 40 years while 25 percent of the patients belonged to the age group of 41 to 45 years. Mean age of the patients was 34.6 years. Inter-menstrual bleeding, Cyclical Dysmenorrhea and Dyspareunia were the seen in 60 percent, 55 percent and 60 percent of the patients respectively.Patel et al determined the diagnostic performance of specific ultrasonographic (US) features in discriminating endometriomas from other adnexal masses. Two sonologists independently reviewed the sonograms of 252 adnexal masses in 226 women and recorded US features by using a standardized checklist. The diagnostic performance of specific US features and overall reviewer impression in discriminating endometriomas from other adnexal masses were evaluated. There were 40 endometriomas. Diffuse low-level internal echoes were present in 38 (95%) endometriomas and 40 (19%) nonendometriomas (positive likelihood ratio, 5). The positive likelihood ratio for the diagnosis of endometrioma increased to 8 if masses with neoplastic features at gray-scale US were excluded, allowing identification of 30 endometriomas (75%). The presence of multilocularity or hyperechoic wall foci further increased the positive likelihood ratio to 48, allowing the identification of 18 endometriomas (45%).[10]

In the present study, Dysuria, Pain before menstruation begins and Infertility was seen in 45 percent, 50 percent and 40 percent of the patients respectively. On ultrasound evaluation, Thick walled cyst with lower level echoes, Hyperechoic wall foci and Dependent fluid levels were seen in 90 percent, 60 percent and 45 percent of the patients respectively. Balleyguier et al determined accuracy compared with that of transvaginal ultrasonography (TVUS) in diagnosing bladder endometriosis. Twelve women with histologically proved bladder endometriosis were enrolled. Magnetic resonance imaging with body and endocavitary coils and TVUS was done. Although TVUS was normal in four patients, MRI enabled endometriotic lesions to be detected in all Patients. Magnetic

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

resonance imaging with endocavitary coil established the existence of deep infiltration in three patients when muscularis involvement was not visible with the body coil. In seven women MRI determined how far deep posterior endometriotic lesions extended, whereas with TVUS this was impossible to see. MRI had advantages over TVUS in diagnosing small lesions of associated posterior deep endometriotic lesions. The endocavitary coil gave better results than the phased-array coil for diagnosing deep infiltration. These results are important in that they help guide surgical management.[11]

CONCLUSION

From the above results, the authors concluded that for initial screening of the patients, USG is useful.

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