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FREQUENCY OF ADENOMYOSIS ON TRANSVAGINAL ULTRASOUND IN MARRIED WOMEN

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ABSTRACT

Background: Adenomyosis is a gynecological disorder in which an abnormal amount of endometrial tissue is present within the myometrium.This disorder is usually present between 35 to 50 years of age, but younger women can also be affected. Some symptoms of adenomyosis are heavy menses, painful menses or both. Some other symptoms include pain, chronic pelvic pain during sexual intercourse or irritation in the urinary bladder. **Objective:** A study was performed to determine the frequency of adenomyosis on transvaginal ultrasound in married women. There are several methods that can be used to diagnose adenomyosis such as transvaginal ultrasound, biopsy and MRI. Transvaginal ultrasound examination was used in this study to find the ultrasonic feature related to adenomyosis. **Methodology:** A cross-sectional study was performed in Lahore General Hospital. 75 women were selected for the study and were assessed for adenomyosis. **Results:** Results showed that transvaginal US had a sensitivity of 83%, a specificity of 86%, and a positive and negative predictive value of 67% and 94.1%, respectively. Results confirmed that transvaginal ultrasound is a specific and sensitive method for the diagnosis of adenomyosis. **Conclusion:** The study concluded that adenomyosis is a common disorder is married women and transvaginal ultrasound is most sensitive, specific and accurate methods and is used all over the world including Pakistan

KEYWORDS: Adenomyosis, Transvaginal Ultrasound, Frequency.

INTRODUCTION

Adenomyosis is a gynecological disorder in which an abnormal amount of endometrial tissue is present within the myometrium. This disorder is usually present between 35 to 50 years of age, but younger women can also be affected. Symptoms of adenomyosis are heavy menses, painful menses or both.[1] it's a very common, but somewhat neglected disorder of the female reproductive tract. Heavy and painful episodes of period starts in this disorder. The symptoms of this disease are relatively similar to many other reproductive disorders, therefore the diagnosis of this disease is difficult and sometimes surgery is required to diagnose the disease.[3] In adenomyosis, abnormal endometrial tissue is present within the myometrium while on the other hand, when endometrial tissue is present outside the uterus then it is known as endometriosis. Both these terms are common and present in different cases.[7] The pathogenic mechanism and the etiology of adenomyosis are not fully understood. Experiments show that adenomyosis is influenced by the increase in intrauterine pressure or due to the weakness of the smooth muscles of uterus.[9] Hypertrophy or hyperplasia of smooth muscle cells are the reflection of proliferative changes in ectopic endometrium. The frequency of adenomyosis is high in the married women which are multiparous and the age is between 40 and 50 years.[10] Patients with adenomyosis complaint of dyspareunia which is deep in pelvis and midline in location. When the total volume of the uterus is increased or depth of penetration become more, it indicates the severity of the adenomyosis.[20] some common risks of adenomyosis are age, parity and previous uterine abrasion. Some other risk factors includes childbirth, and middle age because adenomyosis is largely depend upon the estrogen level that is found is the women at the age of 40s and 50s.[2]

Autoimmune factors and hormonal factors are also considered as a significant risk factor of adenomyosis. They include increase in level of serum-prolactin and local hyperestrogenism Transvaginal ultrasound is a sensitive and specific method and is commonly used. The sensitivity of transvaginal ultrasound ranges from

57% to 89% while on the other hand the specificity of the method ranges from 65% to 98%. This technique is beneficial, but depends on presence of experienced operator.[23] When the results of transvaginal ultrasound are unclear and a diagnosis of the disease cannot be made or additional information is required, then doctors refers the patient for MRI of the uterus. The clear appearance of imaging of adenomyosis is based on the ectopic location of the glands that are surrounded by the stromal reaction of packed smooth muscles of uterus.[24] Transvaginal ultrasound is considered as a safe and accurate method because there are no after effects or side effects of this method. The insertion of transducer into the vagina for ultrasound allows a clear and close view of the pelvic organs. As a result, it becomes possible to take clear ultrasound images of that area for accurate diagnosis. This technique helps doctors for further investigation as well as for affected treatment.[25] The frequency of diffuse adenomyosis on TVS of married women is higher than focal adenomyosis. Focal adenomyosis is diagnosed in one third cases while diffuse adenomyosis is present in two thirds of cases.[16]

MATERIAL AND METHODS

Study Design
Cross-sectional

Settings
General Hospital Lahore

Study Duration
4 Months

Sample Size
Sample size was 75.

Sampling Technique
Convenient

Data Analysis Procedure

Data analyzed by using SPSS 22.0. Mean and standard deviation was calculated for quantitative variables while qualitative variables were presented in the form of frequency and percentage. Appropriate descriptive test was used after checking normality of data.

Sample Selection
Inclusion Criteria
- Only married women were included
- Women between the ages of 35 to 45.
- Women with at least 2 or 3 children.
- All married women having bleeding with pain

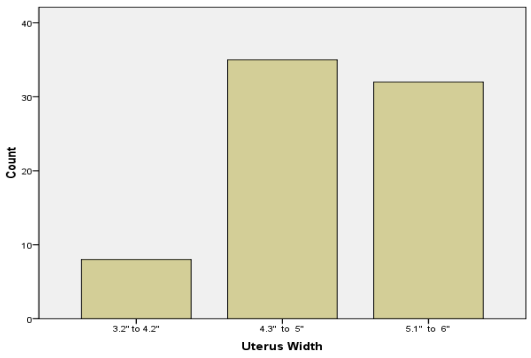
Exclusion Criteria
- Women with any other uterine pathology.
- Post hysterectomy patients.

RESULTS

The purpose of the study was to determine the frequency of adenomyosis on transvaginal ultrasound in married women In Lahore General Hospital. The data was collected from 245 patients and the duration of the study was 3 months.The table 2 showed the frequency and percentage of width of uterus in patient with adenomyosis patients. Thus results showed that uterine width of only 8 patients was 3.2" to 4.2", width of 35 patients was between 4.3" to 5". Furthermore the results showed that width of almost 32 patients was 5.1" to 6". Table 3 determined the endometrial thickness of the patients. The results showed that adenomyosis also affected the endometrial thickness. The endometrial thickness of 14 patients was ranging between 5.5mm to 7.5mm, thickness of 12 patients was 7.6mm to 8.9mm. 12 patients had 9mm to 10.5mm thickness while endometrial thickness of 24 patients was 10.6mm to 12mm. Table 4 defined that adenomyosis also altered the shape of uterus. The shape of uterus of only12 patients was normal while 20 patients it was had arcuate shape. Furthermor, uterus shape was biconuate of 12 women and was bicornuate, in further 19 patients was septate. Table 7 identified that myometrial thickness also helped in diagnosis of adenomyosis. It was identified from the results that myometrial thickness of 38 and 37 patients had 50.7 and 49.3 changes in thickness.

Table 2: Uterine width.

Uterus width	Frequency	Percent
3.2" to 4.2"	8	10.7
4.3" to 5"	35	46.7
5.1" to 6"	32	42.7



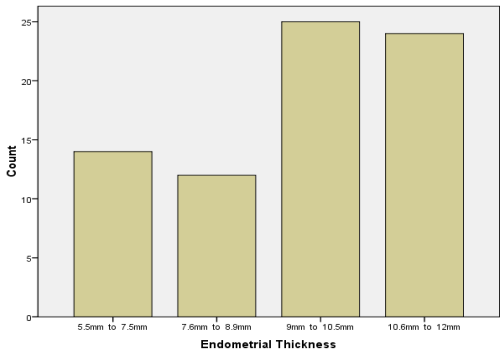


Table 3: Endometrial thickness.

Age	Frequency	Percent
28 to 32	5	6.7
33-38	27	36.0
39 to 45	43	57.3

Table 4: Uterine shape.

Pain	Frequency	Percent
No	58	77.3
Yes	17	22.7
Total	75	100.0

Table 5 Age of patient.

Endometrial Thickness	Frequency	Percent
5.5mm to 7.5mm	14	18.7
7.6mm to 8.9mm	12	16.0
9mm to 10.5mm	25	33.3
10.6mm to 12mm	24	32.0

Table 6: pelvic Pain in patient.

Myometrial thickness	Frequency	Percent
Deep	38	50.7
Superficial	37	49.3

Table 7: Myometrial thickness.

Uterus shape	Frequency	Percent
Normal	12	16.0
Arcuate	20	26.7
Bicorn ate	12	16.0
Unicornuate	12	16.0
Septate	19	25.3

DISCUSSION

Interpretation of the results showed that adenomyosis usually occurs between the ages of 39 to 45. Adenomyosis is a reproductive disorder and is most common in married women at the age of 40 or above. Atzori E et al. also shared the similar results and confirmed that adenomyosis is more common at the ages of 39-45. 157 women between the ages of 40-45 were selected for the study and the mean age of specimens was 45.8 years. Transvaginal ultrasound was performed on the patients before hysterectomy for benign uterine pathology.19 women were diagnosed with adenomyosis on US. While pathologists also indicated that 19 women were affected with adenomyosis.Vavilis D et al also confirmed that age is the important factor for adenomyosis. Adenomyosis is only common in married women at the age when menstrual cycles are about to end. This phase happens only at the age of 39-45. Furthermore, the study revealed that adenomyosis is not present in women of young age. Other risk factors of adenomyosis is presence of children that also showed that age should be between 39-45. The other most important factor that was determined in the study was pain. The results showed that only 17 patients experienced pain due to adenomyosis while 58 patients did not experience any pain which indicates that adenomyosis is not associated with pain. The results were similar to the study that was conducted by RC Benson. It was concluded from the results that adenomyosis is not related with pain or any other pain related symptom.[44]

CONCLUSION

The study concluded that adenomyosis is a common disorder in women especially after pregnancy,and among the several methods that are used to diagnose the adenomyosis, transvaginal ultrasound is most sensitive, specific and accurate method and is used in all over the world including Pakistan.

REFERENCES

1. Kunz G, Beil D, Huppert P, Noe M, Kissler S, Leyendecker G. Adenomyosis in endometriosis—prevalence and impact on fertility. Evidence from magnetic resonance imaging. Human Reproduction, 2005 Jun 2; 20(8): 2309-16.
2. Lee CA, Chi C, Pavord SR, Bolton-Maggs PH, Pollard D, Hinchcliffe-Wood A, Kadir RA. The obstetric and gynaecological management of women with inherited bleeding disorders–review with guidelines produced by a taskforce of UK Haemophilia Centre Doctors' Organization. Haemophilia, 2006 Jul; 12(4): 301-36.
3. Gordts S, Brosens JJ, Fusi L, Benagiano G, Brosens I. Uterine adenomyosis: a need for uniform terminology and consensus classification. Reproductive biomedicine online, 2008 Jan 1; 17(2): 244.
4. Ferenczy A. Pathophysiology of adenomyosis. Human reproduction update, 1998 Jul 1; 4(4): 312-22.
5. Howard FM. Endometriosis and mechanisms of pelvic pain. Journal of Minimally Invasive Gynecology, 2009 Sep 1; 16(5): 540-50.

6. Fawzy M, Mesbah Y. Comparison of dienogest versus triptorelin acetate in premenopausal women with adenomyosis: a prospective clinical trial. Archives of gynecology and obstetrics, 2015 Dec 1; 292(6): 1267-71.
7. Exacoustos C, Manganaro L, Zupi E. Imaging for the evaluation of endometriosis and adenomyosis. Best practice & research Clinical obstetrics & gynaecology, 2014 Jul 1; 28(5): 655-81.
8. 8Kepkep K, Tuncay YA, Göynümer G, Tubal E. Transvaginal sonography in the diagnosis of adenomyosis: which findings are most accurate?. Ultrasound in Obstetrics and Gynecology: The Official Journal of the International Society of Ultrasound in Obstetrics and Gynecology, 2007 Sep; 30(3): 341-5.
9. Bazot M, Cortez A, Darai E, Rouger J, Chopier J, Antoine JM, Uzan S. Ultrasonography compared with magnetic resonance imaging for the diagnosis of adenomyosis: correlation with histopathology. Human Reproduction, 2001 Nov 1; 16(11): 2427-33.
10. Shek KL, Dietz HP. Pelvic floor ultrasonography: an update. Minerva Ginecol, 2013 Feb; 65(1): 1-2.
11. Byun JY, Kim SE, Choi BG, Ko GY, Jung SE, Choi KH. Diffuse and focal adenomyosis: MR imaging findings. Radiographics, 1999 Oct; 19(suppl_1): S161-70.
12. Matalliotakis IM, Katsikis IK, Panidis DK. Adenomyosis: what is the impact on fertility. Current Opinion in Obstetrics and Gynecology, 2005 Jun 1; 17(3): 261- 4.
13. Meredith SM, Sanchez-Ramos L, Kaunitz AM. Diagnostic accuracy of transvaginal sonography for the diagnosis of adenomyosis: systematic review and metaanalysis. American journal of obstetrics and gynecology, 2009 Jul 1; 201(1): 107-e1.
14. Vercellini P, Viganò P, Somigliana E, Daguati R, Abbiati A, Fedele L. Adenomyosis: epidemiological factors. Best practice & research Clinical obstetrics & gynaecology, 2006 Aug 1; 20(4): 465-77.