ORIGINAL ARTICLE

Frequency of Endometrial Carcinoma in Patients Presenting with Abnormal Uterine Bleeding; A Cross Sectional Survey

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ABSTRACT

Background: PCOS, also known as polycystic ovary syndrome, is one of the most prevalent endocrine conditions. It is the root cause of abnormal menstrual cycles, including oligomenorrhea, amenorrhea, and dysfunctional uterine haemorrhage, among others. A relationship between polycystic ovary syndrome (PCOS) and endometrial cancer has been observed in previous research, which may vary over time due to continuously changing causative circumstances.
Objective: To determine the frequency of endometrial carcinoma in patients presenting with abnormal uterine bleeding
Methods: This was descriptive cross-sectional study in which 76 females of reproductive age were surveyed. The research was conducted the Link Medical Centre, Lahore between May to December of 2021. The data was analysed in SPSS 25.0, and it compared variables between normal and abnormal endometrial pathology, the independent samples t test were used.
Results: The results regarding demographics showed that age and BMI were significantly higher in the abnormal (Age, M= 38.33, SD±1.74, BMI, M= 31.44, SD±2.09) endometrium group as compared to normal (Age, M=28.56, SD±1.81, BMI, M=24.37, SD±1.29, BMI) with a p value of 0.001 and 0.009, respectively. There were no significant differences (p value > 0.05) between the two groups when it came to the age of menarche and the thickness of the endometrium. The prevalence of endometrial polyp or carcinoma in abnormal bleeding was found to be 23.7%.
Conclusion: The study findings showed that 23.7 precent patients with PCOS and abnormal endometrial bleeding have endometrial carcinoma. Moreover, there was no statical difference in endometrium thickness and age of menarche in both groups.
Keywords: Endometrium Thickness, Endometrial Carcinoma, Abnormal Endometrial Bleeding, Endometrial Polyp

INTRODUCTION

Polycystic ovarian syndrome (PCOS) is among the most common endocrine disorders and affects 5-10% of women of reproductive age. Abnormal menstruation, such as oligomenorrhea, amenorrhea, or dysfunctional uterine bleeding, is caused by PCOS. Several studies have found a association between PCOS and endometrial cancer.(1, 2) Chronic symptoms can be a precursor to endometrial cancer if oestrogen production is unchecked. Without endometrial disease, the majority of PCOS patients with irregular menstruation are treated with hormones.(3, 4) An intracavitary lesion, such as an endometrial polyp, submucous myoma, or endometrial thickening, can be detected using sonography. There is no agreement on endometrial thickness cut-off points for premalignant and malignant lesions.(5, 6) Endometrial biopsy is recommended in premenopausal women with a history of prolonged hormonal changes if ET is greater than 12 mm due to an increased risk of endometrial hyperplasia or malignancy.(7, 8) Thai women with amenorrhea had endometrial hyperplasia and PCOS at rates of 45% and 48%, respectively. Endometrial cancer is more common in younger women. A Thai study found that 10% of obese or overweight (BMI >25 kg/m2) women under the age of 40 who were unable to conceive had endometrial cancer.(9, 10) The objective of this research was to determine the prevalence of endometrial cancer in PCOS patients with abnormal uterine bleeding.

METHODS

This descriptive cross-sectional study surveyed women of reproductive age with PCOS and an abnormal menstrual pattern. The research was conducted at the Link Medical Centre and Link Medical Institute in Lahore between May and December of 2021. Patients were given informed consent. In this study, 76 PCOS patients with irregular menstrual cycles participated.(11) The patients who were included had menorrhagia (monthly bleeding of more than 80 ml and a period of more than 7 days with a normal menstrual interval),(12) metrorrhagia (irregular menstrual cycle interval),(13) and menometrorrhagia (bleeding > 80 ml per cycle).(14) Patients were questioned regarding their menstrual history and any abnormal patterns. An 8 MHz transvaginal ultrasound (TVS) probe was utilized.(15, 16) Measuring the distance between the endometrium-myometrium echogenic contact and the opposite interface, which was located at the thickest point, was used for the measurement of the thickness.(17) Three distinct measurements were utilized to determine the mean endometrial thickness (ET). Following transvaginal ultrasound, endometrial aspiration was performed. Pathology analysed the tissue sample.(18) The abnormal endometrium pathology was defined by the 2003 WHO Classification for determining that endometrial hyperplasia and carcinoma were both normal and abnormal diseases.(19) However, at the rare moments, the neurogenic involvement must be ruled out, especially with the history of paretic episode.(20) For statistical analysis, SPSS 25.0 was used. Comparing the mean and standard deviation for demographic data. In order to compare variables between normal and abnormal endometrial pathology, the independent samples t test was use. A p-value of 0.05 was considered significant.(21)

RESULTS

The results regarding demographics showed that age and BMI were significantly higher in the abnormal (Age, M = 38.33, SD=±1.74, BMI, M = 31.44, SD±2.09) endometrium group as compared to normal (Age, M=28.56, SD=±1.81, BMI, M=24.37, SD=±1.29, BMI) with a p value of 0.001 and 0.009, respectively. There were no significant differences (p value > 0.05) between the two groups when it came to the age of menarche and the thickness of the endometrium.

The percentages of oligomenorrhea were 74.1% and 55.6% for the normal endometrial group and abnormal endometrial group, respectively, those of Menometrorrhagia were 22.4% and 50.0% for the normal endometrial group and abnormal endometrial group respectively; and the percentages of endometrial polyps were 39.5% and 16.7% for the normal endometrial group and abnormal endometrial group, respectively. The prevalence of endometrial polyp or carcinoma in abnormal bleeding was found to be 23.7%.

Table 1: Demographics

Patient Data	Normal Endometrium N=58	Abnormal Endometrium N=18	P Value
Age	28.5690+1.81719	38.3333+1.74895	0.001
Age of Menarche	13.4828+0.94110	13.7778+1.06027	0.263
BMI	24.3793+1.29544	31.4444+2.09263	0.001
Duration	6.0345+0.89767	6.6667+0.76696	0.009
ET	6.6897+0.94045	7.0000+0.76696	0.207

The values presented in Mean + SD
BMI = Body Mass Index; ET = Endometrial Thickness

Table 2: Menstrual Patterns

Menstrual Patterns	Normal Count (% within Group)	Abnormal Count (% Within Group)
Oligomenorrhea	43 (74.1%)	10 (55.6%)
Menometrorrhagia	13 (22.4%)	9 (50.0%)
Amenorrhea	2 (3.4%)	-
Total	58 (76.3%)	18 (23.7%)

Percentages and totals are based on respondents.

Table 3: Prevalence of endometrial polyp

Pathology Status	Endometrium Polyp	No endometrium polyp	Total
Normal endometrial bleeding	10 (55.6%)	43 (74.1%)	58 (76.3%)
Abnormal endometrial bleeding	9 (50.0%)	13 (22.4%)	18 (23.7%)

DISCUSSION

The objective of this study was to determine the prevalence of endometrial cancer in PCOS patients with abnormal menstrual bleeding. Chronic PCOS symptoms can cause prolonged, uncontrolled oestrogen stimulation of the endometrium, which may result in endometrial hyperplasia and cancer. Patients with PCOS and an irregular menstrual cycle are commonly treated with hormones. In addition, ultrasound-detected endometrial thickness was evaluated for its ability to predict endometrial hyperplasia and cancer in these people. 17.3% of women had endometrial hyperplasia, which is lower than previous research. According to Yada et al., 45.6% of women with irregular menstruation had endometrial hyperplasia. 35.7% of PCOS patients with infertility and 20% of premenopausal women with irregular bleeding were found to have endometrial hyperplasia.(22) This disparity could be due to the study population. Individuals with PCOS and amenorrhea may have an increased risk of endometrial hyperplasia. The incidence of endometrial cancer remained steady. The incidence of endometrial cancer was 1.9% in our study and 1.7% in Korea. The Korean examination also identified endometrioid adenocarcinoma that was well-differentiated. In the current study, the 26-year-old patient with endometrioid adenocarcinoma had a BMI of 42.19 kg/m2 and had experienced oligomenorrhea for six months.(23) Normal and abnormal endometrium groups exhibited comparable menstrual irregularities. This result contradicts the findings of Cheung et al., who discovered that an IMI of more than 3 months was related to endometrial hyperplasia. Endometrial hyperplasia in addition to cancer clinical features. Obesity and age were significantly higher in the group with abnormal endometrium. These results are comparable with research conducted on premenopausal and postmenopausal women. There was no relationship between age, fat, and endometrial hyperplasia in Thai premenopausal women with amenorrhea. Moreover, ultrasonography endometrium thickness was investigated as a clinical measure during the duration of this investigation. There were no statistically significant differences in endometrial thickness between individuals with and without abnormal endometrial abnormalities. An endometrial thickness greater than 7 mm was associated with an increased risk of infertility in women with PCOS. According to this study,

abnormal endometrium had a 38.5% prevalence of endometrial polyps, whereas normal endometrium had a 34.6% prevalence. Women with PCOS or multiple polyps were more likely to develop pre-malignant or malignant endometrial polyps.(24) Endometrial polyps may be associated with unopposed oestrogen, even though their origin is unknown. Both PCOS and endometrial polyps need further investigation. Examine the problems raised in the study. First, due to the limited sample size of the research, endometrial hyperplasia and/or malignancy may have gone unnoticed. These correlations may become more apparent in future studies with larger sample numbers. Second, patient interviews were used to get the menstrual history, which included the age of menarche as well as the length of an abnormal monthly pattern, which may not have been the most reliable method. Endometrial pathology was discovered in 19.2% of the endometrium studied, with hyperplasia accounting for 17.3% of cases and cancer accounting for 1.9%. Ultrasound cannot be used to detect PCOS endometrial illness based just on endometrial thickness. BMI and age are linked to endometrial hyperplasia and malignancy. No matter how thick the endometrium is, the authors say that obese PCOS patients with an abnormal menstrual cycle should get an endometrial biopsy. 19.2% of PCOS women with an irregular menstrual cycle showed abnormal endometrial pathology (17.3% endometrial hyperplasia and 1.9% endometrial cancer). Transvaginal ultrasonography is incapable of distinguishing normal from abnormal endometrial thickness. In this study, abnormal endometrium had 38.5% polyps while normal endometrium included 34.6% polyps. Future studies should concentrate on PCOS and endometrial polyps.(25)

CONCLUSION

The study findings showed that 23.7 precent patients with PCOS and abnormal endometrial bleeding have endometrial carcinoma. Moreover, there was no statical difference in endometrium thickness and age of menarche in both groups.

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