ORIGINAL ARTICLE

The Association of Metabolic Syndrome with Endometrial Polyp in Women Presenting With Abnormal Uterine Bleeding

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ABSTRACT

Background: Metabolic Syndrome is group of disorders including has high blood pressure, high fasting glucose levels and abdominal Obesity.[1]

Metabolic syndrome affects about one third of adults and places them at a higher risk of cardiovascular disease, diabetes, stroke. The underlying cause of metabolic syndrome includes obesity, physical inactivity, genetic factors, PCOS, diabetes and aging**.** A Polyp is a benign polypoid neoplasm protruding above the surface of the endometrium (endometrial polyp) or endocervix; (endocervical Polyp). It is composed of a fibrous stroma that contains thick-walled blood vessels and dilated endometrial glands. Polypectomy is the treatment of choice[3]. Polyp is usually seen in obese women with BMI above 25.

Aims:

1): To determine the frequency of Endometrial Polyp in women presenting with AUB and

2): To find out the association of metabolic syndrome in women presenting with endometrial polyp.

Methods: A Case Control Study was carried out in Obstetrics & Gynecology Unit 4 of Fatima Jinnah Medical University for 1.5 years. Random Convenient Sampling of 350 women with Abnormal Uterine Bleeding presenting to OPD of SGRH were divided into two groups of 175 each. The Case group of 175 patients were diagnosed with Endometrial polyp; one or multiple by Transvaginal Ultrasound.

Results: 350 women with Abnormal Uterine bleeding were evaluated in the GYNAE OPD department of Sir Ganga Ram Hospital and 175 women had endometrial polyp. The Prevalence of Endometrial Poly was 61%.

Conclusion:. Metabolic syndrome has a positive relationship with Endometrial Polyp.

Keywords: Metabolic Syndrome: Obesity; overweight 25-29.9kg/m2, Obesity Type 1 30-34.9, Type II 40-44.9, Type III :45 and above. Diabetes, Hypertension, Dyslipidemia, Endometrial Polyp, Transvaginal ultrasound (TVS)

INTRODUCTION

Endometrial Polyps are common findings in women presenting with Abnormal Uterine Bleeding. The incidence quoted in literature varies between 40-70%[1,2].

Operational Definitions:

1. A Polyp is a benign polypoid neoplasm protruding above the surface of the endometrium (endometrial polyp) or endocervix; (endocervical Polyp).
2. Metabolic Syndrome is group of disorders including high blood pressure, high fasting glucose levels and abdominal obesity. Metabolic syndrome occurs when a person has three or more of the following measurements:

- Triglyceride level of 150 milligrams per deciliter of blood (mg/dl) or greater
- HDL cholesterol of less than 40 mg/dl in men or less than 50 mg /dl in women
- Systolic blood pressure of 130 mm Hg or more, or diastolic blood pressure of 85 mm Hg or more.
- Fasting glucose of 100 mg/dl or more. [6]

After taking consent of University Ethical Committee a detailed history of women's age, parity, menstrual cycle, hormones intake was recorded on a specially designed proforma. Socioeconomic status of the patient was also recorded. Family history of breast cancer, endometrial and colon polyps and cancer was also retrieved. Relevant findings of general and systemic examination were recorded. BMI of patient was calculated using the formula Height in cm x Weight in Kg. Transvaginal ultrasound was done in all patients. Patients were divided into two groups; 175 women with polyp and other 175 were with endometrial thickness 5-18 mm without polyps. Polypectomy and Dilatation and Curettage was planned and Abdominal Hysterectomy was done in some patients depending upon the age and symptoms.

The objectives of the study were to determine the frequency of Endometrial Polyp in women presenting with Abnormal Uterine Bleeding and to find out the association of metabolic syndrome (Obesity, Diabetes, Hypertension and Dyslipidemia) in women presenting with endometrial polyp.

Endometrial polyps are growths of endometrial lining of the uterus. They can be asymptomatic or present with abnormal uterine bleeding or problems with fertility[1].

Patients can have one or more uterine polyps that range in size from few millimeters to large polyps which protrude outside the cervix of the uterus[2]. 5% of polyps can be pre-cancerous especially after menopause[2].

The incidence of polyp varies however 42-72% has been quoted in a large multicentertrial[3].

Polyps can affect all women but they are most likely to develop in women between the age of 40 and 50. Polyps are rare below 20 years of age[2,3].

The cause of development of endometrial polyps is still unknown. Surge in hormones have shown to be a possible factor. Proliferation of endometrium monthly by Estrogens may cause overgrowths in the form of polyps[4].

Obese women, hypertensive women and women taking tamoxifen due to cancer breast or have a history of Lynch syndrome are at increased risk of developing uterine polyps. The main symptoms of uterine or endometrial polyps are Abnormal Uterine Bleeding and infertility[3,5,6].

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Symptomatic polyps may present with heavy menstrual or postmenopausal bleeding, inter-menstrual or post-coital bleeding. Polyps are associated with Hyperglycemia and in some cases Diabetes[7,11].

Polyps can be diagnosed by Transvaginal ultrasound (TVS).[8],Sonohysterography and Hysteroscopy . Many Polyps are diagnosed only after Endometrial biopsy or Curettage followed by histopathology. Treatment of polyps is best carried out under vision by hysteroscopic resection. Many Polyps can be removed by simple polypectomy and curettage. Medical treatment with gonadotropin releasing hormones offers cure in some patients[9,10].

SUBJECTS AND METHODS

This case control study was conducted in the Department of Obstetrics and Gynecology Unit 4, Sir Ganga Ram Hospital, Lahore. During 6 months from 1st February to 31th August 2017 Randomized non-probability convenient sampling was done. 350 women who fulfilled the criteria of selection were divided into two groups of 175 each; Cases and Control. The Ethical Committee of Fatima Jinnah medical University approved the research.

Data collection: A total of 350 women presenting with Abnormal Uterine Bleeding to Gynae OPD department of Sir Ganga Ram Hospital during the study period were evaluated for Abnormal Uterine Bleeding. The patients were divided into two groups of 175 with Polyp Cases and Control on the basis of TVS. Both groups were investigated for Metabolic Syndrome. 71% of cases were diagnosed with Metabolic Syndrome (having more than two criteria) compared to 15% of Controls. Patients with Endometrial Polyp were treated by hysteroscopy resection, polypectomy and hysterectomy depending upon the individual cases. The specimen was sent for histopathology to the same college Lab.

Data analysis: The Data was analyzed using SPSS-22 software. The data was presented in Frequency and Percentage using ANOVA test. Binary Logistic Regression Analysis was performed to determine the association of Obesity, BMI, Serum Cholesterol and Hypertension with Endometrial Polyp.

Strengths: Reasonable sample size and the results are comparable to large multicenter trials.

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RESULTS

350 women with Abnormal Uterine bleeding were evaluated. 175 women had endometrial polyp. The Prevalence of Endometrial Polyp in the study population was 61%.

The age range of patient was 20-65 years. The women were divided into age groups. Majority of the patients belonged to 40-50 years' age group. 90% of women with polyp were Obese compared to 39% obese women without polyp. (RR 1.81 P Value < 0.024).

The BMI of Obese patient ranged between 28-40kg/m^2 in Cases compared to 25-30kg/m^2 in Controls. (RR: 1.19, P Value <0.001)

Fasting Blood sugar level in Cases were above 105 mgs in 83% in Cases and 3% women in control group had raised blood sugar level. (RR: 1.29, P Value <0.001). 67 % Cases were hypertensive compared to 2% hypertensive in Control group. (RR: 1.09, P Value < 0.001). Total Serum Cholesterol was high in 93 % and 4% (RR: 1.29:P Value < 0.001).Cases and Controls respectively.

Fig. 1: Uterus with polyp

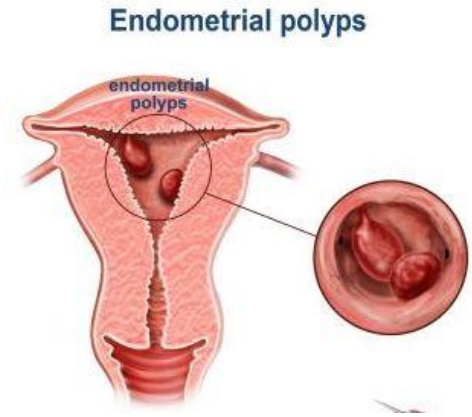


Table 1: Age distribution of patients with abnormal uterine bleeding

	N	%age
20-29.9Years	30	3.5
30-30.9 Years	110	31.4
40-40.9Years	140	40
50-50.9 Years	42	12
>60 Years	28	13.1
total	350	100
Majority of the patients belong to 40-50 years age group		

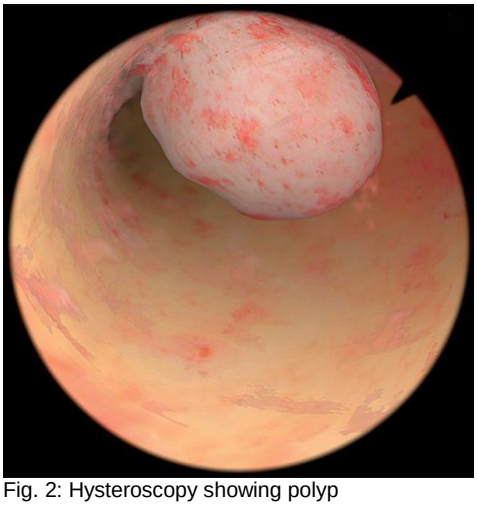


Fig. 2: Hysteroscopy showing polyp

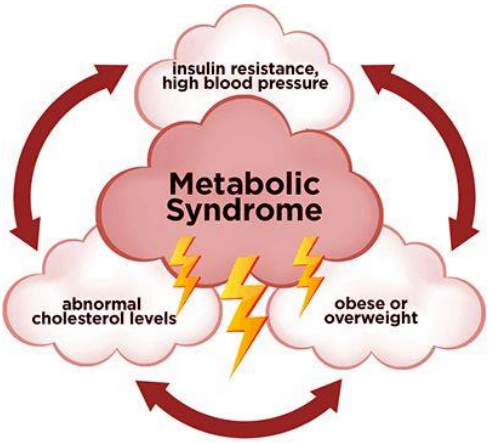


Fig. 3: Metabolic syndrome

Table 2. Histopathology of endometrium in women with AUB

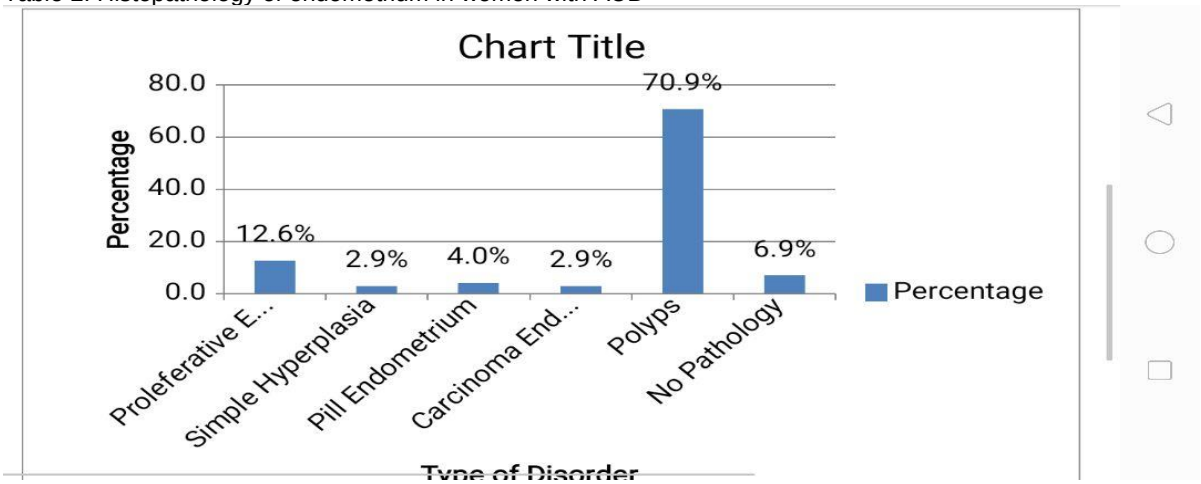
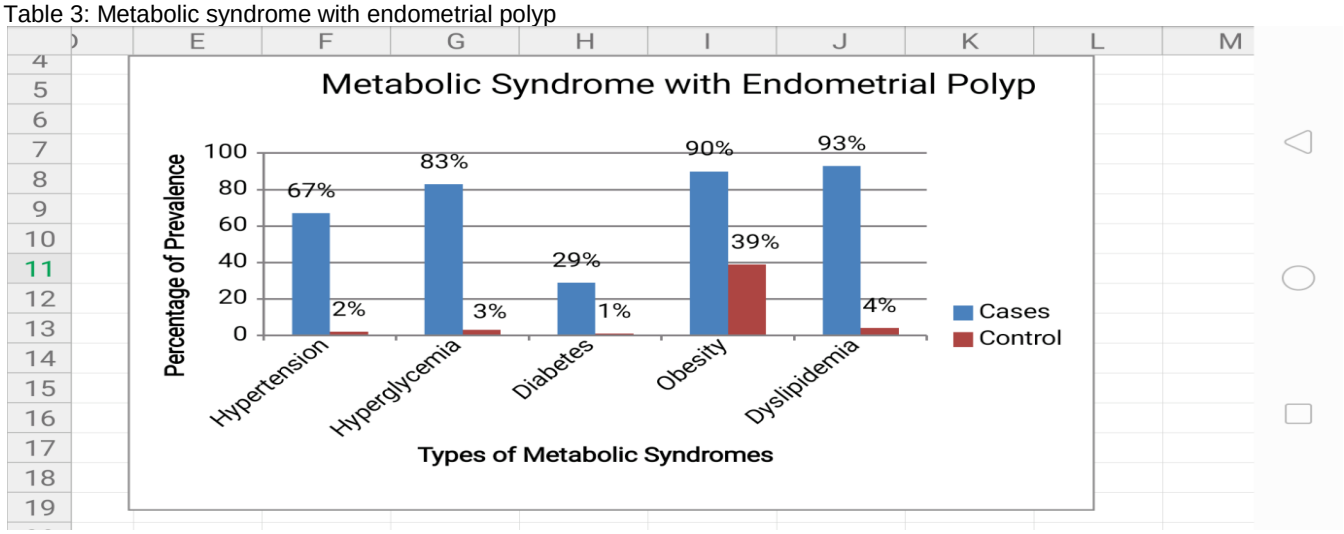


Table 3: Metabolic syndrome with endometrial polyp



DISCUSSION

The incidence of polyp in our study is 61%% which is comparable to another study conducted by Nazli Topfedaisi Ozkan June 2015[6]. However, incidence of 42-72% have been quoted in symptomatic perimenopause and postmenopausal women respectively[7].

Polyps are more common in the age of 40-50 years but may occur between 20 to 65 years of age[8].

In our study the maximum patients belonged to 40-50 years age group and age range was between 40-65 years.

90% of patients with polyp were Obese compared to 39% Obese patients with no polyps. A Case Control Study conducted in 2007 also shows association of Obesity and raised BMI with endometrial polyps and cancers[9].

Fasting BSL above 105mgs/dl and diabetes is associated with 83% 0f patients with Endometrial polyp. Another study done by Cust AE in 2007 also substantiate this finding[10,11].

Serum Cholesterol was > 200mgs in 93% patients with Endometrial polyp[12].

67% patients with Endometrial polyp are hypertensive. Another study conducted in July 2016 shows an association of endometrial polyp with hypertension and dyslipidemia[11,13]. Thus the study shows that one or more of the criteria of metabolic syndrome was met by the patients with endometrial polyp. 91percent of these patients were obese, 67 percent were also hypertensive and 83 percent had a deranged glucose level.

CONCLUSION

The prevalence of metabolic syndrome with endometrial polyp is 61% in this study. Metabolic syndrome has a positive relationship with Endometrial Polyp in this study but larger studies are required to use these parameters as predictors of the condition.

Suggestions: Study was conducted in referral Tertiary Care Hospital and prevalence of endometrial polyp cannot be justified. Further studies in different settings may focus on the prevalence of the condition.

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