Original Research Paper

Volume - 7 | Issue - 6 | June - 2017 | ISSN - 2249-555X | IF : 4.894 | IC Value : 79.96

Pathology

ENDOMETRIAL POLYPS: A STUDY ON PREVALENCE, CHARACTERISATION AND RISK OF MALIGNANT POTENTIAL.

Gopal Ravindran — Associate Professor, Department of Pathology, K.A.P.Viswanatham Government Medical College, Tiruchirappalli - 620 001.

Sai Sridevi Krishna — Assistant Professor, Department of Pathology, K.A.P.Viswanatham Government Medical College, Tiruchirappalli - 620 001.

ABSTRACT Endometrial polyps (EMP) are routinely encountered in surgical pathology practice. These lesions are seen in 2 - 23% of patients of AUB. The objective of this study is to analyse the prevalence of endometrial polyps, to characterise the types of polyps and their malignant potential. All cases diagnosed as endometrial polyps in hysterectomy specimens from 2015 to 2017 at Department of Pathology, K.A.P. Viswanatham Government Medical College, Tiruchirappalli were retrieved and a total of 76 cases were analysed. Highest incidence of endometrial polyps (57.8%) were seen in the perimenopausal age group of 46 - 55 years. Commonest type observed was benign adenomatous polyp (77.63%). Immunohistochemistry was done for one case of endometrial stromal sarcoma low grade. A detailed study and careful microscopic search in endometrial polyps of perimenopausal age group women is recommended.

KEYWORDS : Endometrial polyps, perimenopausal women, endometrial stromal sarcoma.

BACKGROUND:

Endometrial polyps (EMP) are routinely encountered in surgical pathology practice. These lesions are seen in 2 - 23% of patients of AUB[1]. These pedunculated or sessile lesions are generally considered benign proliferative lesions with irregular proliferative glands and fibrotic stroma containing thick walled blood vessels[2]. The morphologic spectrum of the background endometrium range from hyperplastic to atrophic. Endometrial polyps was associated with 12 -34% of uteri containing endometrial carcinoma[3,4]. But there is no direct implication for a polypoid lesion to undergo malignant change. This study implicates the magnitude of malignant potential among endometrial polyp and the associated risk factors.

OBJECTIVES:

The objective of this study is to analyse the prevalence of endometrial polyps, to characterise the types of polyps and their malignant potential. The risk factors of age, background endometrial findings and others associated factors were analysed.

MATERIALS AND METHODS:

All cases diagnosed as endometrial polyps in hysterectomy specimens from 2015 to 2017 at Department of Pathology, K.A.P. Viswanatham Government Medical College, Tiruchirappalli were retrospectively retrieved and a total of 76 cases removed for various causes including DUB, prolapse, fibroid, postmenopausal bleeding, PID, chronic cervicitis, ovarian cyst and adenomyosis were analysed. Out of total 2760 hysterectomy specimens submitted to the pathology department, 76 cases (2.75%) were endometrial polyps. The various clinical diagnosis are tabulated in the table 1.

Table 1: List of Clinical diagnosis.

Clinical diagnosis	Number	%
Dysfunctional uterine bleeding	26	34
Fibroid	20	26.3
Postmenopausal bleeding	12	15.7
Prolapse	6	7.8
Chronic cervicitis	2	2.63
Adenomyosis	1	1.3
PID	1	1.3
Ovarian cyst	1	1.3
Cervical intraepithelial neoplasia III (CIN III)	1	1.3
Carcinoma ovary	1	1.3
Asymptomatic	9	11.8

Their prevalence, histological typing and the presence of malignant changes were studied. The age at presentation and associated lesions in hysterectomy specimens were tabulated.

Inclusion criteria were1) Hysterectomy specimen. 2) Endometrial polypoidal lesions. Exclusion criteria were 1) Currettings, 2) DUB of other organic lesions, 3) DUB due to hormonal changes. The endometrial tissue was fixed in 10% formalin for 12 hours and routine processing was carried out. Paraffin blocks were prepared and 0.5 microns thickness sections were taken. The sections were stained with Hematoxylin and Eosin (H&E) stain. Microscopic examination was done and immunohistochemistry was done for one case. The results were tabulated in excel format and the data collected was analysed.

RESULTS:

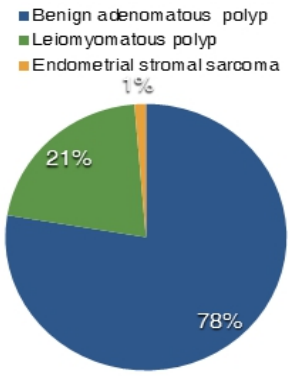
76 cases of endometrial polyps were included in the present study. The prevalence of endometrial polyps in our tertiary care centre was 2.75%. All the samples included for the study were from hysterectomy specimens and the age of the patients ranged from 36 - 72 years with a mean of 47.5 years. The age group was divided into premenopausal (35 - 45), perimenopausal (46 - 55) and postmenopausal age (> 56) groups. Highest incidence of endometrial polyps (57.8%) were seen in the perimenopausal age group of 46 - 55 years(Table 2).

Table 2: Age distribution of endometrial polyps.

AGE in years	Number of patients	%
35 - 45	4	5.2%
46 - 55	44	57.8%
56 - 65	21	27.6%
> 65	7	9.2%

The various types of polyps encountered were benign adenomatous polyp and leiomyomatous polyps. One case (1.3%) of endometrial stromal sarcoma was reported (Chart 1). Commonest type observed was benign adenomatous polyp (77.63%). The associated lesions were fibroid and adenomyosis, of which most commonly adenomyosis (67%) was closely associated with endometrial polyp.

Chart 1: Types of polyp



The background endometrial findings were noted and the commonest

pattern was proliferative endometrium (Table 3). 6.5% of patients showed simple hyperplasia without atypia. Out of the 76 cases, 11.8% cases showed evidence of atrophic endometrium.

Table 3: Background endometrial patterns.

Endometrial finding	Number	%
Proliferative	34	44.7
Secretory	28	36.8
Simple hyperplasia without atypia	5	6.5
Atrophic	9	11.8

Immunohistochemistry was done for one case of endometrial stromal sarcoma low grade. More than 90% of the tumour cells showed intense cytoplasmic positivity for CD10. Only 10 to 20% of the tumour cells showed moderate positivity for the proliferation marker Ki67. Smooth muscle actin(SMA) and HMB 45 were negative. SMA negativity ruled out the possibility of leiomyoma and HMB45 negativity ruled out the possibility of perivascular epithelioid cell tumours (PEComa).

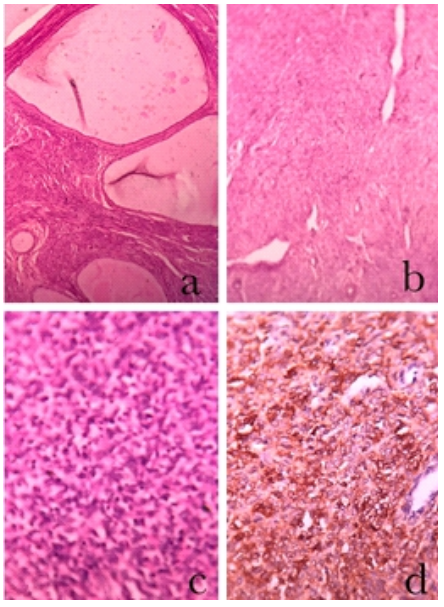


Figure 1: a) Benign adenomatous polyp. (40x) Haematoxylin & eosin(H&E). b) Leiomyomatous polyp. (40x-H&E). c) Endometrial stromal sarcoma - low grade. (100x-H&E) d) Endometrial stromal sarcoma - low grade Immunohistochemistry CD10 - > 90% of tumour cells showing intense cytoplasmic positivity. (100x)

DISCUSSION:

Endometrial polyps are commonly seen in between 2 - 23% of patients of abnormal uterine bleeding(AUB)[1]. Endometrial polyps is a common organic cause of AUB of perimenopausal and postmenopausal women and suggest possible association of malignant involvement and polyps[5]. Complications noted include ulceration, bleeding and twisting leading to partial or complete necrosis. The prevalence of EMP ranges from 6 to 38% and are very rare before menarche[6]. In our study the prevalence of EMP was 2.75%. They are common between 40 and 50 years of age[6]. They may be asymptomatic. The frequency of malignant transformation of polyps is very rare.

Our study indicated strong age dependent association (57.8%) of EMP with perimenopausal age group. Hileeto et al also proposed increased prevalence of EMP in perimenopausal age group[7]. The hormones oestrogen and progesterone act as modulators of endometrial proliferation and differentiation through their receptors. The expression of these receptors in normal cycling endometrium and these endometrial polyps are not significantly different. Very few stromal cells in polyps express oestrogen and progesterone receptors suggest the possibility of decrease in receptors[8]. Though EMP grow in response to oestrogen stimulation and are dependent partially on estrogen receptors, it is not so in case of postmenopausal women. Maia et al showed the presence of c-erb B2 over expression in EMP and its association with higher proliferation rates[9]. This explained the signs of proliferation in polyps even in atrophic endometrium. Our study showed 11.8% of endometrial polyps associated with atrophic endometrium. Highest number of cases showed a background proliferative endometrium (44.7%). The combination of high gonadotropins and low oestrogen levels are characteristic in postmenopausal women with polyps exhibiting c-erbB2 over expression.

Bcl-2 is strongly expressed in hyperplastic and malignant endometrium[10]. The pathogenesis of endometrial polyps relates to increase in Bcl-2 expression and cessation of apoptosis[11].The polyps fail to undergo normal proliferation and shedding due to increased Bcl 2 expression. Hence there is a significant difference in receptor expression and apoptosis in polypoid and normal endometrium. These differences along with chromosomal aberrations make a suitable environment for malignant change. In this aspect, the process of malignant change in polyps of postmenopausal women is attributed to these cytogenetic and molecular alterations. However our study did not reveal any association with endometrial cancers. Ismail et al proposed evaluated the pathological findings in endometrial polyps and carcinoma arising in Tamoxifen treated breast cancer patients compared with general population[12]. Silva et al observed that 10(76%) out of 13 patients treated with had malignant transformation in endometrial polyps[13].

In our study, histological evaluation revealed one case of endometrial stromal sarcoma low grade proved by immunohistochemistry. More than 90% of tumour cells showed intense cytoplasmic positivity for CD10. Smooth muscle actin was negative.

Our study had few limitations such as lack of consideration of variables like family history, obesity and hypertension. The goal of our study was aimed to primarily focus on age related distribution and pathomorphological study. Thus an extensive study of data for over 3 years at a tertiary care hospital adequately represent the prevalence of endometrial polyps in general population.

CONCLUSION:

In summary, the peak incidence, histologic subtype and age distribution was similar to previous study reports. However, no malignant change was noted. A detailed study and careful microscopic search in endometrial polyps of perimenopausal age group women is recommended.

REFERENCES:

1) Schindler AE, Schmidt G. Post-menopausal bleeding: a study of more than 1000 cases. Maturitas 1980;2(4):269-74.
2) Reslova T, Tosner J, Resl M, Kugler R, Vavrova I. Endometrial polyps. A clinical study of 245 cases. Arch Gynecol Obstet. 1999;262:133–139.
3) Peterson WF, Novak ER. Endometrial polyps. Obstet Gynecol. 1956;8:40–49.
4) Salm R. The incidence and significance of early carcinomas in endometrial polyps. J Pathol. 1972;108:47–53.
5) Sherman MD, Mazur MT, Kurman RJ. Benign diseases of the endometrium. Kurman RJ, ed Blaustein's Pathology of the Female Genital Tract 5th ed, Springer, New York. 2002. pp. 421–457.
6) Orvieto R1, Bar-Hava I, Dicker D, Bar J, Ben-Rafael Z, Neri A.Endometrial polyps during menopause: characterization and significance.Acta Obstet Gynecol Scand. 1999 Nov;78(10):883-6.
7) Hileeto D, Fadare O, Martel M, Zheng W. Age dependent association of endometrial polyps with increased risk of cancer involvement. World J Surg Oncol. 2005;3:8.
8) Mittal K, Schwartz L, Goswami S, Demopoulos R. Estrogen and progesterone receptor expression in endometrial polyps. Int J Gynecol Pathol. 1996;15:345–348.
9) Maia H, Maltez A, Athayde C, Coutinho EM. Proliferation profile of endometrial polyps in post-menopausal women. Maturitas. 2001;40:273–281.
10) Zheng W, Feng YJ, Gandhi M, Siu S, Hom E, Caputo T, Lauchlan SC. Persistent expression of bcl-2 onco-protein in endometrial carcinoma correlates with hormone receptor positivity. Int J Gynecol Cancer. 1996;6:235–240.
11) Taylor LJ, Jackson TL, Reid JG, Duffy SR. The differential expression of oestrogen receptors, progesterone receptors, Bcl-2 and Ki67 in endometrial polyps. BJOG. 2003;110:794–798.
12) Ismail SM. Pathology of endometrium treated with tamoxifen. J Clin Pathol. 1994;47:827–833.
13) Silva EG, Tornos CS, Follen-Mitchell M. Malignant neoplasms of the uterine corpus in patients treated for breast carcinoma: the effects of tamoxifen. Int J Gynecol Pathol. 1994;13:248–258.