



(RESEARCH ARTICLE)



Correlation of Endometrial Biopsy histology with Post Hysterectomy histopathology in Abnormal uterine bleeding

K Viharika Gowda *, Ramya K and Kala K

Department of Obstetrics and Gynecology, Akash Institute of Medical Sciences and Research Center, Devanahalli, Karnataka, India.

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Abstract

Background: Abnormal uterine bleeding (AUB) is the most common presenting complaint among gynecological outpatients and occurs in all age groups in women. In women with AUB, detecting endometrial pathologies at an earlier stage plays an important role in treating them. The standard diagnostic procedure of choice is Endometrial biopsy; therefore, a minimally invasive outpatient procedure is preferred which is a Pipelle endometrial biopsy.

Objectives: To examine the morphological pattern of endometrial biopsies and find the correlation between endometrial biopsy histology with post hysterectomy histopathology.

Methods: A retrospective study was conducted among 100 women within the age group between 35 to 65 years with complaints of abnormal uterine bleeding from January 2023 to October 2023. All the patients underwent endometrial biopsy (with Pipelle endometrial biopsy) and were examined for histopathological changes to study the morphological pattern and further compared them with post operative histopathology reports of the women who underwent hysterectomies for various causes like symptomatic fibroids, polyps and in failed medical management. The data was collected and tabulated in Microsoft excel sheet and the percentages were calculated.

Results: This study included 100 women with abnormal uterine bleeding, aged between 35 and 65 years. The endometrial biopsy morphology was studied for all the patients, where 82 (82%) showed normal endometrium showing either proliferative (40) or secretory phase (42), 5 (5%) had carcinoma including (both endometrium and cervix), 4 (4%) had precancerous lesions, 4 (4%) had endometrial hyperplasia with atypia, 3 (3%) had endometrial hyperplasia without atypia and 2 (2%) had polyps respectively. We correlated between endometrial biopsy and post hysterectomy histopathological examination among women who underwent hysterectomies for symptomatic fibroid, polyps and failed medical management. The proliferative phase and secretory phase endometrium were 51% in hysterectomy HPE when compared with endometrial biopsy which was 82% which showed some differences, however it was consistent among the other findings.

Conclusion: We conclude that, endometrial biopsy is a good diagnostic tool for identifying endometrial hyperplasia, endometrial cancer, and has a good post-hysterectomy correlation.

Keywords: Abnormal Uterine Bleeding; Endometrial biopsy; Hysterectomy; Histopathology

* Corresponding author: K Viharika Gowda

1. Introduction

Abnormal uterine bleeding (AUB) is defined as bleeding from uterine corpus which is abnormal in volume, regularity and or timing and that has prevailed during the past six months^{1,2}. Abnormal uterine bleeding (AUB) is the most common presenting complaint in gynecological outpatients (10-30%) and occurs in all age group of women^{1,2}. The most common presenting complaints include heavy menstrual bleeding, polymenorrhoea etc. Though it generally has a chronic course, but when it turns to be acute the patient may have hypovolemic shock and heart failure³.

The most common cause of AUB is disruption of the hypothalamo-pituitary-ovarian (HPO) axis. Progesterone levels decline as a result, and the PGE2/PGF2 alpha ratio is changed. Tissue plasminogen activator hyperfunction is the fibrinolytic enzyme responsible for prolonged and severe bleeding⁴.

The causes of AUB can be assessed using a variety of methods. These consist of both invasive and minimally invasive treatments, like endometrial curettage biopsies. dilatation and curettage (D&C), hysteroscopy endometrial biopsy, ultrasound, and endometrial biopsy. Uterine D&C is the most efficient method for examining endometrial lesions and is a safe and sensitive way to assess AUB among these methods⁵⁻⁷.

As the standard diagnostic procedure of choice is Endometrial biopsy, a minimally invasive outpatient procedure was preferred⁸. In the recent times, Pipelle endometrial biopsy is widely used for the same. Therefore, this study was conducted to analyze the morphological pattern of endometrial biopsies and find the correlation between endometrial biopsy histology with post hysterectomy histopathology.

Objective of the study

The main objective of this research was to examine the morphological pattern of endometrial biopsies and find the correlation between endometrial biopsy histology with post hysterectomy histopathology.

2. Materials and Methodology

A retrospective study was conducted among 100 women with complaints of abnormal uterine bleeding who visited the Department of Obstetrics and Gynecology of Akash institute of medical sciences and research center, Devanahalli from January 2023 to December 2023.

The women with complaints of abnormal uterine bleeding within the age group between 35 to 65 years and those willing to undergo biopsy were included in this study. We excluded women who were pregnant or having an abortion and those refused for histopathological study. All the study participants underwent endometrial biopsy (with Pipelle endometrial biopsy). Histopathology of endometrial patterns was studied. Samples were examined for histopathological changes and to study the morphological pattern and further compared them with post operative histopathology report of women who underwent hysterectomies for symptomatic fibroids, polyps and failed medical management.

The clinical information and investigation reports for each case were acquired from individual case requisitions and were submitted to the department of pathology of our institution. The data was collected and tabulated in Microsoft excel sheet and the frequencies and percentages were calculated for analysis.

3. Results

This study included 100 women with abnormal uterine bleeding, who were aged between 35-65 years of age. All the study participants underwent endometrial biopsy (with Pipelle endometrial biopsy), and they were examined for histopathological changes and to study the morphological pattern and further compared them with post operative histopathology report.

The endometrial biopsy morphology was studied for all the patients, where 82 (82%) had both proliferative phase (40) and secretory phase endometrium (42), 5 (5%) had endometrial carcinoma, 4 (4%) had precancerous lesions, 4 (4%)

had endometrial hyperplasia with atypia, (3%) had endometrial hyperplasia without atypia and 2 (2%) had polyps respectively [Table 1 & Fig 1].

We correlated between endometrial biopsy and post hysterectomy histopathological examination among women with Abnormal uterine bleeding as depicted in Table 2. The proliferative phase and secretory phase endometrium were 51% in hysterectomy. HPE when compared with endometrial biopsy which was 82% which showed some differences. However, the morphology was 100% consistent for endometrial carcinoma (5%), precancerous lesions (4%), endometrial hyperplasia with atypia (4%), endometrial hyperplasia without atypia (3%) and polyps (2%) respectively in both endometrial biopsy and post hysterectomy histopathological examination.

Table 1: Frequency of Endometrial biopsy morphology among women (n=100)

Endometrial biopsy morphology	Percentage
Proliferative and secretory phase	82%
Carcinoma	5%
Precancerous lesions	4%
Hyperplasia with atypia	4%
Hyperplasia without atypia	3%
Polyp	2%

Table 2: Concordance rate between endometrial biopsy and hysterectomy

	Endometrial biopsy	Hysterectomy HPE
Proliferative and secretory phase	82	51
Carcinoma	5	5

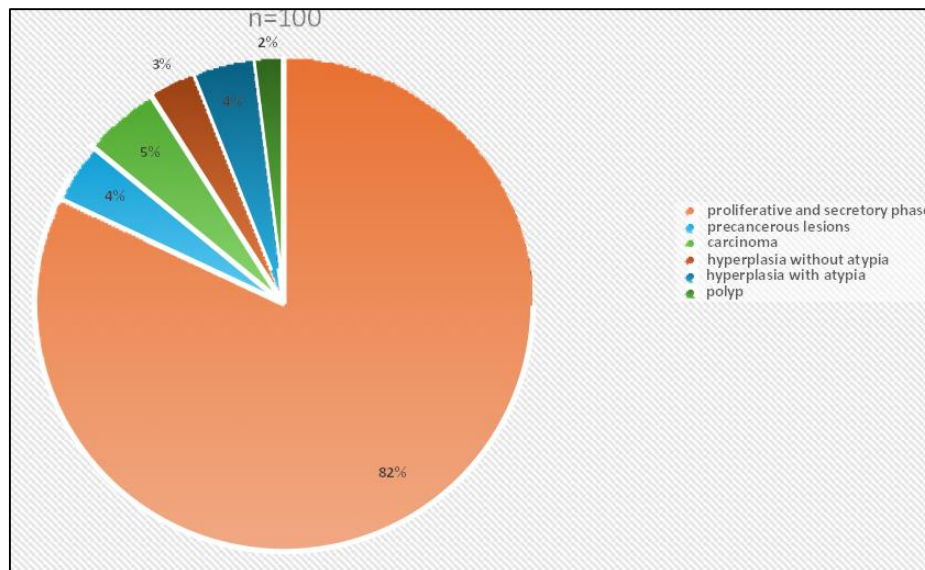


Figure 1 The Endometrial biopsy morphology among women

4. Discussion

According to studies, abnormal uterine bleeding is a common problem of all gynecological problems^{8,9}. The primary goal of the investigation in these women was to rule out endometrial hyperplasia, endometrial cancer, and its precursor lesion.

In the present study of 100 abnormal uterine bleeding cases, all women were in the age group between 35 to 65 years of age who underwent hysterectomies for symptomatic fibroids, polyps and failed medical management. The B.G.Malathi et al study² observed that the adolescent age group <20 years accounted for (3.87%) cases with normal pattern of proliferative and secretory endometrium which was agreed with Doraiswami et al¹⁰ study where they observed 1.5% in their cases. However, this finding could not be observed in the present study, as we selected the age group of only above 35 years.

Among the endometrial pattern in histopathological study, proliferative and secretory pattern was the commonest observed in our study which was 82%. Various studies have observed proliferative pattern as the commonest which is shown in Table 3. Also, another research revealed primarily normal functional endometrium from Maiduguri (55.7%), Lagos (50.9%), Ilorin (67.6%), and Ibadan (72.8%)¹²⁻¹⁵.

Table 3: Distribution of Abnormal uterine bleeding according to histopathological pattern of endometrium seen among different studies

	Present study	SINGH A ¹¹	B.G.MALATHI ET AL ²
Proliferative	82%	37%	41.54%
Secretory	(Proliferative & Secretory)	30%	13.38%
Endometrial hyperplasia with atypia	4%	22.2%	34.50%
Endometrial carcinoma	5%	1%	1.40%

Our study found that endometrial carcinoma was among 5% of the patients, which was slightly higher than studies done by Singh A¹¹ and B.G.Malathi et al² and Aarti et al⁸ depicting only 1%, 1.40% and 0.69% respectively.

The concordance rate between endometrial biopsy and post hysterectomy histopathology was 69% in the current study. Our findings were similar to the study done by Aarti et al where they found the concordance among 78.9%⁸. The consistency rate among patients with atypical endometrial hyperplasia was 62.5% in the study done by Aarti et al⁸, and a study by Jesadapatrakul et al showed 41.3% consistency¹⁶. However in contrary to the above studies, we found 100% consistency among patients with atypical endometrial hyperplasia.

5. Conclusion

Based on the present study, we conclude that Endometrial biopsies have a fair specificity for identifying endometrial hyperplasia, has high sensitivity (97%) for identifying endometrial cancer, and also has advantage of diagnosing endometrial pathologies in large population, cut down hospital stay and is cost effective and a good post-hysterectomy correlation in histopathological examination.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest noted,

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