

Correlation and Analysis of Endometrial Biopsy Histology with Post Hysterectomy Histopathology

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Abstract: Endometrium remains the most sensitive indicator of ovarian function and endometrial biopsy is one of the diagnostic procedures in endometrial pathology. The current study was carried out to examine the morphological pattern of endometrial biopsies and find the Correlation between Endometrial Biopsy Histology with Post hysterectomy Histopathology. This retrospective study was conducted in OBG Department, SUIMS, Shimoga. Histopathology reports of 144 patients who underwent endometrial biopsy (which included both D&C and endocoele) between June 2013 to August 2017 were analyzed to study the morphological pattern. Pre-operative and post-operative histopathology reports of 38 patients who underwent hysterectomy subsequently were compared to know the concordance rate. Out of 144 patients who underwent endometrial biopsy, average age group of patient was 36 years, common finding was simple hyperplasia without atypia (43%), normal endometrium (23%), complex hyperplasia without atypia (7%), complex hyperplasia with atypia (3%), endometrial polyp (0.5%), endometrial carcinoma (0.4%). Concordance rate between endometrial biopsy and hysterectomy histopathology was 78.9%. No coexisting malignancy was reported in cases of atypical endometrial hyperplasia. Concomitantly 2 had endometrial polyps, 5 had leiomyoma, 2 had adenomyosis, detected only after hysterectomy. Endometrial biopsy has good sensitivity in diagnosis of endometrial pathology in women with AUB and pre-operative endometrial histology (both D&C and endocoele) correlates well with hysterectomy histopathology.

Keywords: Endometrial biopsy, endometrial polyp, endometrial hyperplasia.

INTRODUCTION

Abnormal uterine bleeding (AUB) is the main reason women are referred to gynecologists and accounts for two thirds of all hysterectomies. In premenopausal women, AUB is diagnosed when there is a substantial change in frequency, duration, or amount of bleeding during or between periods. RCOG recommends any women > 45 years with abnormal uterine bleeding require endometrial biopsy (performed as either D&C or endometrial aspiration biopsy). In postmenopausal women, any vaginal bleeding 1 year after cessation of menses is considered abnormal and requires proper evaluation [1].

Abnormal uterine bleeding (AUB) in women of reproductive age is due to a wide range of disorders or pathologies. The international federation of gynecology and obstetrics (FIGO) has approved a new classification system (polyps, adenomyosis, leiomyoma, malignancy and hyperplasia – coagulopathy, ovulatory disorders, endometrial causes, iatrogenic, not classified [PALM-COEIN]) for causes of AUB in non-gravid women of reproductive age [2].

There are various techniques for evaluating the causes of AUB. These include minimally invasive and invasive procedures such as endometrial curettage biopsies [3]. Ultrasonography, endometrial biopsy, hysteroscopy endometrial biopsy, and dilatation and curettage (D&C) [4,5]. Among these techniques, uterine D&C is the most effective for investigating endometrial lesions and is sensitive and safe for evaluating AUB [4].

The current study was carried out to examine the morphological pattern of endometrial biopsies and find the Correlation between Endometrial Biopsy Histology with Post hysterectomy Histopathology

MATERIALS AND METHODS

A retrospective study was undertaken to review the histopathological reports of all endometrial biopsies at the Department of OBG Subbaiah Institute of Medical Sciences, Shivamogga. From June 2013 and August 2017. Patients' data were extracted from the surgical daybooks, case notes and Histology Request forms. Individual cases were verified by retrieving and histologically examining the original glass slides. Excluded from this study were products of conception

for therapeutic purposes, cases where both slides and blocks could not be found or had inadequate clinical details. Cases where the diagnostic method was not D&C/ endocel prior to hysterectomy and those where endometrial biopsy of a patient was not due to AUB were also excluded. In this study, any type of hyperplasia, malignancy, endometritis and endometrial polyps was considered as pathology or disease, and other cases were considered as normal.

Statistical Analysis

Analysis was performed using the SPSS program version 20.

RESULTS

Histopathology reports of 144 patients who underwent endometrial biopsy (which included both D&C and endocel) between June2013 and August2017 were analysed to study morphological patterns of endometrial biopsies. The average age of patients was 36 years. The duration of bleeding in 48.2% of the patients was less than 6 months.

The most Common finding was simple hyperplasia without atypia (43%), followed by normal endometrium (23%), simple hyperplasia with atypia (5.5%), complex hyperplasia without atypia (7%), complex hyperplasia with atypia (3%), endometrial polyp (0.5%), endometrial carcinoma (0.4%). Figure 1 and Table 1.

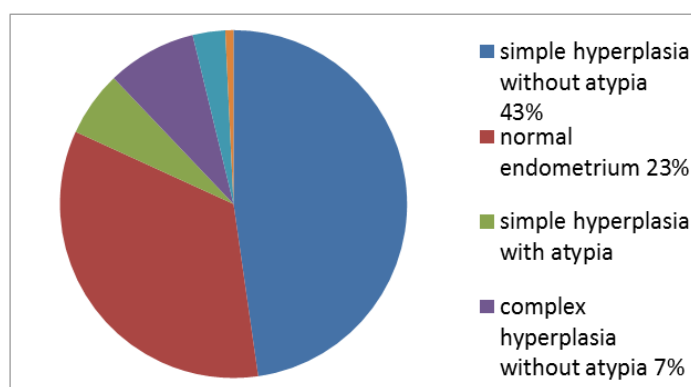


Fig-1: Morphological patterns of endometrial biopsies

Table-1: Distribution of morphological patterns of endometrial biopsies

Patterns	Number (N=144)
simple hyperplasia without atypia	63
simple hyperplasia with atypia	8
Proliferative endometrium	22
Secretory endometrium	10
Biphasic endometrium	10
complex hyperplasia without atypia	11
complex hyperplasia with atypia	4
Atrophic endometrium	6
endometritis	5
CA endometrium	1
Disordered proliferative phase	3

The Concordance rate between endometrial biopsy and hysterectomy histopathology was 78.9%. The Agreement between endometrial biopsy and

hysterectomy findings for various histologist are shown in Figure 2 and table 2.

Table-2: Concordance rate between endometrial biopsy and hysterectomy

	Endometrial biopsy	Hysterectomy HPE
simple hyperplasia without atypia	12	8
simple hyperplasia with atypia	4	4
complex hyperplasia without atypia	2	1
complex hyperplasia with atypia	1	2
Endometrial polyp	0	2
Normal endometrium (secretory, proliferative, biphasic)	19	21

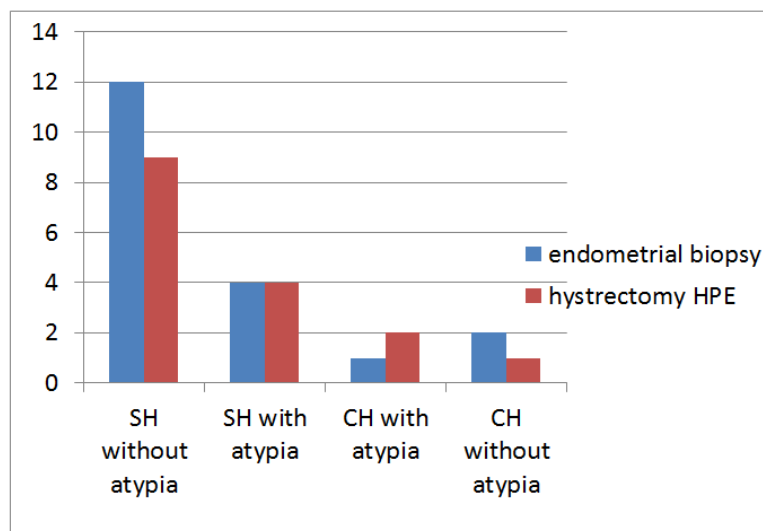


Fig-2: Concordance rate between endometrial biopsy and hysterectomy

DISCUSSION

Abnormal uterine bleeding is a common problem of all gynecological consultations [6]. The main aim of investigating these women is to rule out endometrial cancer and its precursor lesion and endometrial hyperplasia. The probability of endometrial cancer in women presenting with postmenopausal bleeding is 10% and approximately 15% for endometrial hyperplasia.

The most common histological diagnostic category was simple hyperplasia without atypia (43%) followed by normal functional endometrium, accounting for 23% of the cases. This is in contrast to previous studies from Maiduguri (55.7%) [7], Lagos (50.9%)[8], Ilorin (67.6%) [9] and Ibadan (72.8%)[10] which showed predominantly normal functional endometrium. Endometritis accounted for 3.47% of cases in the present study. This is relatively in agreement with the figures of study by Ilorin [9].

The majority of the cases of endometrial hyperplasia in the present study were classified as simple endometrial hyperplasia accounting for 73.25% of cases and this is in tandem with what was reported in previous studies [7,9]. Endometrial carcinoma accounted for 0.69% of endometrial biopsies. This low frequency of endometrial carcinoma is in keeping with the observation that the frequency of occurrence of endometrial carcinoma is much lower in the Indian subcontinent.

Concordance rate between endometrial biopsy and hysterectomy histopathology was 78.9%. on performing hysterectomy, none of the 86 patients with Simple or complex hyperplasia had endometrial cancer. In a study by Jesadapatrakul *et al.* [11] on 46 patients with endometrial hyperplasia, the general consistency rate of curettage and hysterectomy was 41.3%. The consistency rate in patients with atypical endometrial

hyperplasia was 62.5% and in patients with nonatypical endometrial hyperplasia was 30%.

In the present study, no patient with an endometrial polyp was diagnosed by D&C. According to Radwan *et al.* [12] the gold standard method in the diagnosis of endometrial polyps is hysteroscopy, which is a diagnostic and treatment method. The other effective method is sonohysterography, which is a safe method with high sensitivity and specificity, and its diagnostic value is approximately equal to that of hysteroscopy. Therefore, diagnostic curettage is not an appropriate method for the diagnosis of endometrial polyps according to the findings of our study and the study by Radwan *et al.*[12].

Study limitations.

Low sample size to determine the diagnostic value of endometrial biopsy in each endometrial pathology. Using larger samples, one can obtain results that are more precise in this regard.

In conclusion, endometrial biopsy has good sensitivity in diagnosis of endometrial hyperplasia, acceptable sensitivity in the diagnosis of endometrial cancer, and endometrial biopsy histology correlates well with post hysterectomy histopathology. It has very low sensitivity in the diagnosis of endometrial polyps.

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