Original Article

# Evaluation of endometrial biopsies in abnormal uterine bleeding – analytical study in rural population of Kancheepuram district, Tamil Nadu

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## Abstract

Abnormal uterine bleeding (AUB) is an emerging gynecological problem affecting women of pre, peri and post menopausal age groups. Though a few cases respond to hormonal treatment, most have to undergo dilatation and curettage and the endometrial curetting submitted for histopathological study, to analyze the underlying endometrial pathology. The present study includes 150 cases of abnormal uterine bleeding who underwent dilatation and curettage in Shri Sathya Sai medical college, Kancheepuram district, during the year 2015. The diagnostic pathological findings in the endometrium were analyzed according to age and menstrual pattern of the patients. In our study the most common pathology observed was endometrial hyperplasia with and without atypia, the other findings being ovulatory and anovulatory disorders, hormonal effects, endometrial polyps, carcinoma and also normal physiological changes.
**Keywords:** Abnormal uterine bleeding, Endometrial hyperplasia, Atypical.

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## INTRODUCTION

Normal menstruation is defined as the bleeding from secretory endometium associated with an ovulatory cycle -not exceeding a length of 5 days. Any bleeding not fulfilling these criteria is referred to as an Abnormal uterine bleeding (AUB). Some of these are the result of an identifiable lesion such as endometriosis, leiomyoma, endometrial polyp or carcinoma. Bleeding not associated with an organic cause in women of child bearing age belongs to the large and somewhat nebulous category known as dysfunctional uterine bleeding.

## MATERIALS AND METHODS

150 cases of Abnormal uterine bleeding who attended the gynecology department and subsequently underwent dilatation and curettage in the year 2015 were included in the study. The clinical details were recorded and slides reviewed. The sections studied were from paraffin embedded blocks stained with haematoxylin and eosin.

## RESULTS

Out of the 150 cases analyzed 25 (16.6%) showed normal physiological changes like proliferative and secretory endometrium. In 23 (15.3%) cases, the pattern was disordered proliferative. 20 (13.3%) cases disclosed ovulatory disorders and luteal phase insufficiency. The patterns observed were Inadequate proliferative phase, irregular ripening, inadequate secretory transformation. Hormonal effect was observed in 12 (8%) and 6 (4%) of cases and pattern was glandular-stromal disparity and decidual cast respectively. 7 (4.6%) of cases were endometrial polyps. The most common endometrial pathology in our study was endometrial hyperplasia 45 cases (29.8%) out of which 22 (14.6%) of cases were

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simple hyperplasia without atypia and 2cases (1.3%) with atypia. Complex hyperplasia without atypia was observed in 13 (8.6%) of cases and with atypia in 6 (4%) of cases. Endometrial carcinoma was the alarming pathology in 5 (3.3%) cases. 9 (6%) cases showed postmenopausal atrophic pattern. The results are formulated in the following table.

**Table 1:** Endometrial patterns – incidence and the age groups

| Sr. No. | Pattern | Incidence | Age in years |
|---|---|---|---|
| 1 | Normal Physiological changes | 25 (16%) | 30 - 35 |
| 2 | Disordered proliferative | 23(15.3%) | 35 – 40 |
| 3 | Ovulatory disorders and luteal phase insufficiency | 20 (13.3%) | 30 – 40 |
| 4 | Hormonal effects | 12 (8%) | 35 – 40 |
| 5 | Decidual cast | 6 (4%) | 35 – 40 |
| 6 | Endometrial Polyp | 7 (4.6%) | 35 – 45 |
| 7 | Simple hyperplasia without atypia | 22 (14.6%) | 30 – 40 |
| 8 | Simple hyperplasia with atypia | 2 (1.3%) | 35 – 45 |
| 9 | Complex hyperplasia without atypia | 13 (8.6%) | 45 – 50 |
| 10 | Complex hyperplasia with atypia | 6 (4%) | 50 – 55 |
| 11 | Endomerial carcinoma | 5 (3.3%) | 55 - 65 |
| 12 | Post menopausal atrophic endometrium | 9 (6%) | 60 - 65 |

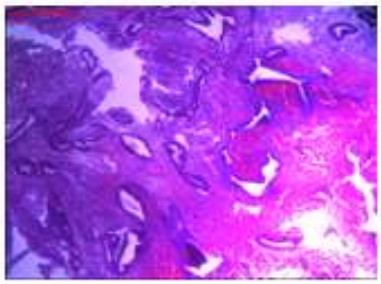
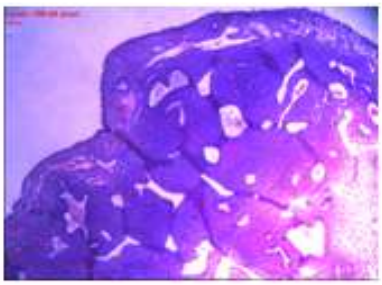


**Figure1:**



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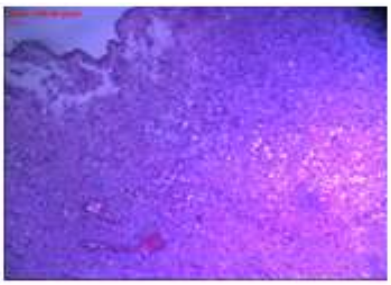

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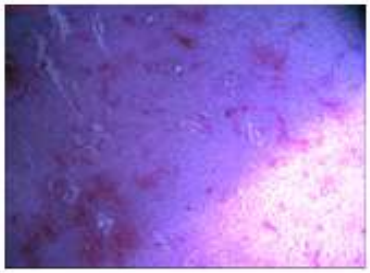

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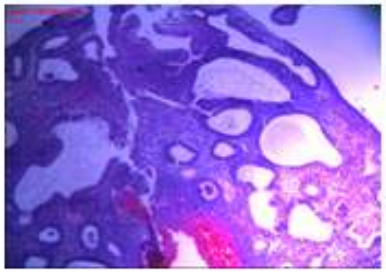

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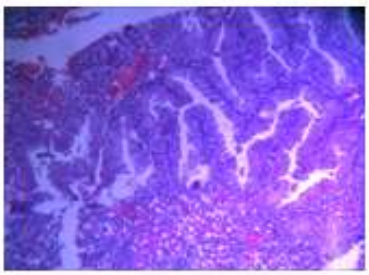

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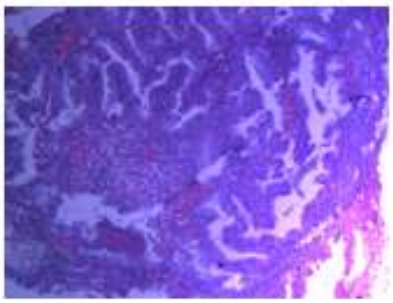

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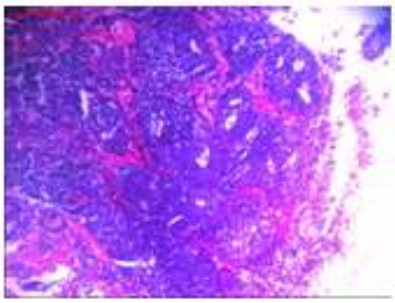

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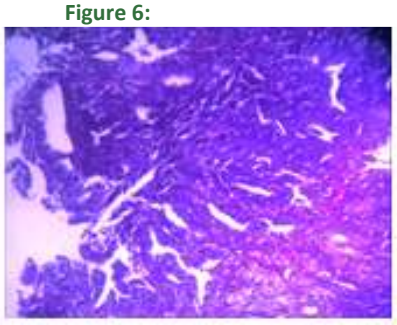

**Figure 9:**

**Figure 1:** Disordered proliferative endometrium; **Figure 2:** Cystic endometrial polyp; **Figure 3:** Decidual cast; **Figure 4:** Glandular stromal disparity. 4X; **Figure 5:** Simple (cystic) hyperplasia without atypia; **Figure 6:** Atypical hyperplasia.4X; **Figure 7:** Atypical hyperplasia. 10X; **Figure 8:** Endometrial carcinoma. 4X; **Figure 9:** Endometrial carcinoma. 10X

## DISCUSSION

The endometrial biopsy from patients presenting with abnormal uterine bleeding can disclose varied histological patterns.

In the ovulatory group, bleeding may occur because of an inadequate proliferative phase which is recognized by a disparity between the endometrial pattern observed and that expected from the time of the cycle. Bleeding resulting from inadequate secretory phase (luteal phase inadequacy) is diagnosed by biopsy obtained on seventh or eighth post ovulatory day. Disordered proliferative endometrium results from dysynchronus growth of the fundal functionalis under the influence of estradiol, causing absence of pattern uniformity. The glands are of irregular shapes, some with mild cystic dilatation.The effects of progestins on the endometrium depend on the degree of estrogen priming and the dose and duration of the therapy. They typically result in atrophy of the endometrial glands with pseudodecidualization of the stroma termed glandular stromal disparity. Endometrial polyps are thought to be foci of retained endometrium that has become pedunculated and fibrotic over several cycles. Endometrial polyps with severe epithelial atypia and associated carcinomas develop in patients receiving Tamoxifen. Endometrial hyperplasia is defined as the proliferatrion of glands of irregular size and shape with an associated increase in the gland/stroma ratio compared with proliferating endometrium. The World Health Organization (WHO) classification takes into account both cytologic and architectural abnormalities. But most commonly endometrial hyperplasias are simply classified as simple hyperplasia with or without atypia and complex hyperplasia with and without atypia (Atypical hyperplasia). All women with complex atypical hyperplasia require subsequent surgical management. In one natural history study, fewer than 2% of hyperplasia without cytologic atypia progressed to carcinoma, whereas 23% of the hyperplasia with cytologic atypia (atypical hyperplasia) progressed to carcinoma. Endometrial carcinoma- Based on clinicopathologic and molecular genetic features endometrial carcinoma can be broadly divided into Type I and Type II. Type I carcinomas are associated with unopposed estrogenic stimulation as well as atypical endometrial hyperplasia and it is the most common form, the endometrioid subtype. Serous carcinoma is the most common form of endometrial carcinoma that is not related to estrogenic stimulation and represents Type II. The other histological types are Villoglandular, secretory, clear cell, mucinous, squamous and undifferentiated carcinomas- modified World health organization and International society of Gynaecological pathologists. The only finding in over half of postmenopausal bleeders is an atrophic endometrium. The abnormal uterine bleeding here is due to vascular degenerative changes in the uterine blood vessels.

## CONCLUSION

Endometrial biopsy is considered a very important diagnostic modality in the evaluation of abnormal uterine bleeding, to categorize the histopathological patterns for subsequent management plan – medically or surgically.

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