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HISTOMORPHOLOGICAL ANALYSIS OF PROLIFERATIVE LESIONS OF ENDOMETRIUM

Pathology

Anushuya Ganesan Asst. Professor, Department of Pathology, Sree Balaji Medical College & Hospital, CLC Works Road, Chrompet, Chennai-600044

Ponnusamy Karkuzhali* Professor & Head, Department of Pathology, Sree Balaji Medical College & Hospital, CLC Works Road, Chrompet, Chennai-600044 *Corresponding author

ABSTRACT

INTRODUCTION: Endometrial carcinoma is a common malignancy in females. The frequent subtype of endometroid carcinoma is often preceded histologically by evident precursor lesions like endometrial hyperplasia.

MATERIALS & METHODS: This study was carried out in our department, Sree Balaji Medical College & Hospital from Jan 2017-Dec 2017. Data of 48 cases, diagnosed with endometrial hyperplasia were retrieved. The samples were processed routinely and stained with H&E.

RESULTS: A retrospective study of 48 patients with endometrial hyperplasia, revealed peak incidence in the age group of 40-50 yrs constituting ~48% of cases.

CONCLUSION: Accurate recognition of these precursors can predict an impending endometrial carcinoma and hence treatment can be planned accordingly.

KEYWORDS

Endometrial carcinoma, Endometrial hyperplasia, EIN

INTRODUCTION

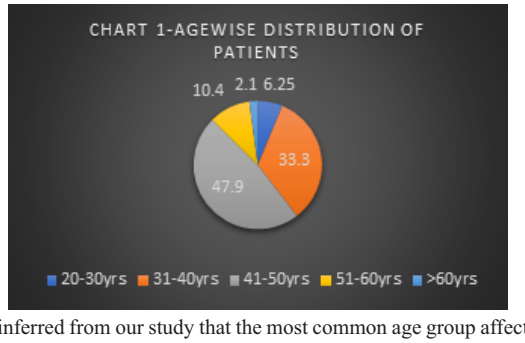
A study in 2008 showed that there were 288 000 newly diagnosed uterine corpus cancers worldwide comprising predominantly, of endometrioid type (70–80%) (1, 2). In India, 50-60% of all malignancies in women are related to the four organs; uterine cervix, breast, corpus uteri, and ovary(3). An early diagnosis of "endometrial hyperplasia" has great clinical value owing to its early prediction of increased cancer risk and isolation of potential targets for preventive treatment. The current WHO classification of endometrial hyperplasia includes hyperplasia without atypia and EIN/atypical hyperplasia. Atypical hyperplasia is of great consideration because of its risk of a coexistent endometrial carcinoma (4, 5). Thus the early diagnosis and treatment of hyperplasia can prevent the development of endometrial carcinoma. The routine testing of endometrium of perimenopausal women can help diagnosing endometrial hyperplasia and thereby prevent the development of malignancy.

MATERIALS AND METHODS

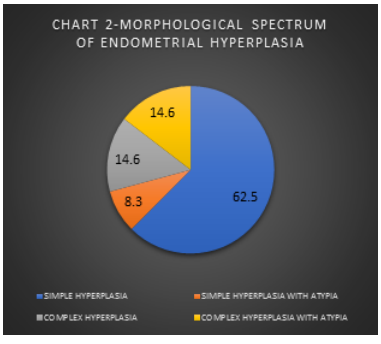
This study was carried out in the department of Pathology, Sree Balaji Medical College and hospital. The female patients presenting with menstrual disturbances for whom D & C or hysterectomy was done were included in the study. The patients included were of the age 29-62 years and constituted a total of 48 cases. The samples received were processed as routine and stained with H&E. The samples were studied thoroughly and analysed as per the WHO 2014 classification system of the endometrial hyperplasia. Results were tabulated and compared with histological results.

RESULTS

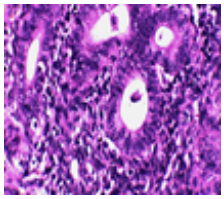
Our study was conducted over a period of 1 year from Jan 2017 to Dec 2017. Data of all cases reported as endometrial hyperplasia were retrieved and analysed. A total of 48 cases were collected. The age of patients ranged from 29-62 yrs (Chart 1).



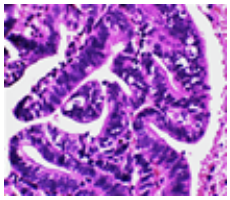
It is inferred from our study that the most common age group affected by endometrial hyperplasia is 40-50yrs (47.9%). The most common presenting complain was menorrhagia. The clinical data retrieved showed that endometrium was thickened in 6 cases ranging from 11mm to 20mm. 4 patients with post menopausal bleeding had endometrial hyperplasia. The 48 cases of endometrial hyperplasia included 38 curettings and 10 hysterectomy specimens. Of the 10 hysterectomy specimens, 6 had normal ovaries while 1 case each of B/L follicular cysts, unilateral serous cystadenofibroma, simple serous cyst and Brenner tumour, were seen. The slides reviewed showed that a diagnosis of simple hyperplasia without atypia was made in 30 cases (62.5%). CHART 2 shows the morphological distribution of endometrial hyperplasia.



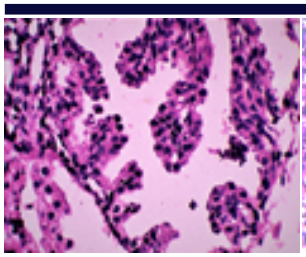
The least common pattern was simple hyperplasia with atypia. The slides when reclassified according to WHO classification 2014 into endometrial hyperplasia and EIN/Atypical hyperplasia. The number of cases in endometrial hyperplasia was 37, while the number of cases reported as EIN/atypical hyperplasia was 11. The slides were also reviewed for presence of metaplasia. A total of 13 cases showed presence of metaplastic endometrium. The most common type of metaplasia observed was ciliated metaplasia (5 cases), followed by papillary, mucinous, eosinophilic, squamous and micropapillary metaplasia.



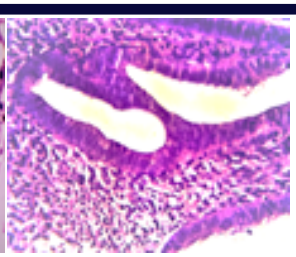
(FIG 1- Endometrial hyperplasia x45)



(FIG 2- EIN x45)



(FIG 3-Micropapillary metaplasia x45)



(FIG 4-Ciliated columnar metaplasia 40x)

Figure 1 -Endometrial Hyperplasia back to back arrangement of gland without atypia.

Figure 2 -EIN marked nuclear atypia, altered N/C ratio, loss of polarity& apoptotic bodies.

Figure 3- micropapillary metaplasia-cystically dilated glands with micropapillary hyperplasia.

Figure 4- shows ciliated columnar metaplasia showing ciliated cells.

DISCUSSION

Classification of endometrial hyperplasia has evolved with time. Earlier it used to designate an increased volume of endometrial glands, with increased endometrial glands to stromal ratio. Endometrial hyperplasia was further classified based on complexity of endometrial glands and atypia, as simple or complex hyperplasia, with or without atypia (6).

The current WHO classification 2014 includes only two entities as endometrial Hyperplasia and Atypical Hyperplasia/EIN. Our study with 48 cases reported as endometrial hyperplasia showed a predominance in perimenopausal age group of 45-50 years which was concurrent with other studies. Risk factors for EH are obesity, polycystic ovarian syndrome and diabetes (7). Prolonged oestrogen exposure unopposed by progesterone which may be seen in perimenopausal female is important risk factor. Glands vary in size, shape and may be separated by varying amounts of stroma with back-to-back arrangement or crowding. Irregular distribution of glands is seen, with few glands showing branching or cystic dilatation. The epithelium is stratified columnar, with mitotic figures. There is no genetic profile of endometrial hyperplasia. According to Parazzini et al., endometrial hyperplasia shows an increased risk for endometrial carcinoma by 3–4-fold (8).

Ries et all found that the important risk factor of EIN was hyperoestrogenism (9). It is more common in post-menopausal females with post-menopausal bleeding. Baak et al. has found that AH/ EIN coexists with carcinoma in ~25–40% cases (10). An increased endometrial thickness of ~1cm is seen in such cases. Microscopy shows crowded aggregates of cytologically altered tubules with branching glands. The distinctive feature between endometrial hyperplasia without atypia and EIN is nuclear atypia showing pleomorphism, enlargement, rounding, nucleoli and loss of polarity (11, 12). AH/ EIN contains many of the genetic changes including PAX2 inactivation, microsatellite instability, KRAS, PTEN, and CTNNB1 mutations (4, 5, 12). Hereditary susceptibility includes Cowden syndrome (13) and Lynch syndrome (14). The risk of endometrial carcinoma has been found to be increased to 14-45 folds with EIN (11, 10). The various types of metaplasia include, syncytial, papillary, eosinophilic, hobnail, mucinous and squamous. Though they may be seen in endometrial hyperplasia, their role is not fully understood.

CONCLUSION

Endometrial Hyperplasia was found to be common in age group of 41-50 years. The most common morphological pattern was simple hyperplasia without atypia which was concurrent with the results of other studies.

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