Original Research Paper

Volume - 11 | Issue - 07 | July - 2021 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Pathology

SECRETORY CARCINOMA OF ENDOMETRIUM: A MORPHOLOGICAL MIMICKER POSING DIAGNOSTIC DILEMMA - A RARE CASE

Dr Dharani V C	(Associate Professor)Dept. of Pathology, BGS Global Institute of Medical Sciences, Bengaluru-560060.
Dr Manjunath H K*	(Professor & Head)Dept. of Pathology, BGS Global Institute of Medical Sciences, Bengaluru-560060. *Corresponding Author
Dr Bhargavi Mohan	(Associate Professor)Dept. of Pathology, BGS Global Institute of Medical Sciences, Bengaluru-560060
Dr Varaprasad B M	(Assistant Professor)Dept. of Pathology, BGS Global Institute of Medical Sciences, Bengaluru-560060
Dr Thej M J	(Associate Professor)Dept. of Pathology, BGS Global Institute of Medical Sciences, Bengaluru-560060

ABSTRACT **BACKGROUND:** Secretory carcinoma of the endometrium, a rare subtype of endometrioid carcinoma morphologically resembles the early secretory phase of endometrium and is almost always well differentiated and carries excellent prognosis. Very few cases of secretory carcinoma have been reported in the literature till date.

Case presentation: A 58 yr old obese female presented with post-menopausal bleeding. Ultrasound revealed increased endometrial thickness and endometrial biopsy showed hyperplasia without atypia in secretory transformation. Pathological examination of the hysterectomy specimen revealed features of secretory carcinoma of the endometrium as an incidental finding.

CONCLUSION: Secretory carcinoma, a rare subtype of well differentiated endometrial carcinoma carries very good prognosis and morphologically mimics various pathological conditions of endometrium. Hence, this needs to be carefully evaluated morphologically in addition with immunohistochemical markers to arrive at an accurate diagnosis.

KEYWORDS :

INTRODUCTION

Secretory carcinoma of endometrium is a rare variant of endometrial adenocarcinoma with an incidence of 1-2% of all endometrial carcinomas. It occurs predominantly in post-menopausal women (55-85 years) and presents with abnormal uterine bleeding [1,2]. Risk factors implicated in the development of secretory carcinomas are similar to other endometrial carcinomas such as obesity, diabetes mellitus, hypertension, nulliparity and exogenous hormone administration. Its histological features closely mimic normal early secretory phase of endometrium with subnuclear and supranuclear vacuolations; and it is more frequently seen as a focus within other endometrial carcinomas rather than in pure form [3]. Since it carries excellent prognosis, it is imperative to make an accurate diagnosis. Here, we report a rare case of secretory endometrial carcinoma in a post-menopausal woman.

CASE PRESENTATION

A 58 year old obese woman; P3L3, presented with complaints of post-menopausal bleeding since 2 months. She had attained menopause 5 years back. She is a known hypertensive and diabetic since 8 years and is on regular treatment. There is no history of hormone replacement therapy in the patient. Per abdomen was soft, with no organomegaly. Per speculum examination revealed a firm, mobile normal cervix. Ultrasound of abdomen and pelvis revealed an endometrial thickness of 8 mm. Pap smear was negative for intraepithelial lesion or malignancy. Endometrial biopsy showed hyperplasia without atypia in secretory transformation. The patient underwent vaginal hysterectomy with bilateral salpingo-oophorectomy.

Hysterectomy specimen was sent in multiple bits. Since endometrium was not easily discernible, extensive bits were given to identify endometrium. The cervix, bilateral tubes, and ovaries were unremarkable. Microscopic examination revealed a malignant tumor of the endometrium composed of compact round to tubular glands lined by stratified columnar epithelium displaying mild to moderate nuclear atypia, and having vesicular nucleus with fine nuclear chromatin. The cytoplasm of the cells showed both subnuclear and supranuclear vacuolations were seen. Mitosis was 2-3/ 10 high power field. Myometrial invasion of 1.65 mm depth from the endomyometrial junction was present. On immunohistochemistry, the tumor was positive for estrogen receptor (ER), progesterone receptor (PR), p53 and exhibited a high Ki-67 proliferation index of 30%. The patient is on follow up and has no fresh complaints. A final diagnosis of Secretory carcinoma of endometrium, FIGO grade 1, pathological stage pT1a pNx pMx was given.

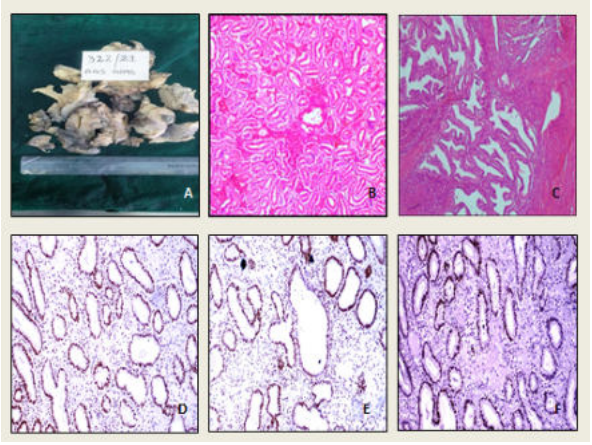

FIGURE (A) Gross specimen of vaginal hysterectomy specimen received in multiple bits. (B) Microphotograph of well differentiated compact arrangement of glands (H&E, 10x) (C) Microphotograph of Malignant glands with Myometrial invasion (H&E, 10x) (D,E,F) Microphotograph of Tumor cells showing positive for ER(D), PR(E) & p53(F) (H&E, 10x).

DISCUSSION

Secretory carcinoma is a rare variant of endometrioid adenocarcinoma and presents as a well-differentiated tumor with progesterone changes. It is difficult to differentiate it from early secretory endometrium [4]. The incidence of this tumor is 1-2% of all endometrial carcinomas and is most commonly seen in post-menopausal women. Occasionally it is also seen in young, reproductive age women and women treated with progesterone. Other risk factors include obesity, hypertension, diabetes and progesterone therapy [1,2]. Very limited cases of secretory carcinoma have been reported in literature till now and few of them are found to have association with Tamoxifen therapy for carcinoma breast [3,5,6].

Two types of secretory carcinomas have been described. One in which the secretory changes is induced by circulating progestins and the other type in which secretory differentiation is an intrinsic feature of the neoplasm independent of the background hormonal state . However,

the general architecture of the tumor is unaltered by progesterone [7].Secretory carcinoma of endometrium are almost always well differentiated with compact glands having subnuclear and supra nuclear vacuoles, minimal to moderate cytological atypia and presence of myometrial invasion. The intracellular secretions are glycogen; therefore they are positive for periodic acid Schiff, negative to focally positive for alcian blue and negative with Best Carmine stain [4].

It is important to differentiate secretory carcinoma from secretory phase of endometrium, atypical secretory hyperplasia, clear cell carcinoma and mucinous carcinoma [7,8]. Confusion in diagnosis is seen in patients with recent history of ovulation or hormone therapy Hence, a thorough clinical history should be shared with the pathologist for accurate diagnosis.

Normal secretory phase endometrium and secretory hypertrophy are distinguished by absence of crowded glands, nuclear atypia, nuclear stratification and myometrial invasion. Atypical secretory hyperplasia closely mimics secretory carcinoma histologically but careful evaluation for myometrial invasion seen in secretory carcinoma helps in differentiating it from atypical secretory hyperplasia. Clear cell carcinoma is another very close mimicker of secretory carcinoma and carries poor prognosis. The key differentiating features of clear cell carcinoma are a papillary and tubulo-cystic architecture with round to polygonal tumor cells showing severe nuclear atypia. Immunohistochemistry can be used as an adjuvant test in differentiating secretory carcinomas from clear cell carcinomas. Secretory carcinomas are positive for ER, PR and p53 while clear cell carcinomas are negative. Our case expressed ER, PR, p53 positivity along with a high proliferative index (ki67). Mucinous carcinoma is differentiated histologically by its presence of mucin and tall columnar cells having basal atypical nuclei and intracytoplasmic mucin which stains positive for Alcian blue while in secretory carcinoma tumor cells are negative or only partly positive for alcian blue [6].

CONCLUSION

Secretory carcinoma of endometrium is a rare variant of endometrial carcinoma with excellent prognosis. Its histological mimics range from normal secretory phase to more ominous clear cell carcinoma and mucinous carcinoma. Hence, morphology in conjunction with immunohistochemistry is of paramount importance in making a diagnosis of secretory carcinoma.

REFERENCES:

1. Ellenson LH, Ronnett BM, Soslow RA ,Zaino RJ, Kurman RJ..Endometrial carcinoma.In: Kurman RJ, Ellenson LH, Ronnett BM(Eds). Blaustein's Pathology of the female Genital Tract.6th edition.New York.Springer.2011; 393-452.
2. Zaino R, Carinelli SG et al. Tumors of the uterine corpus.Kurman JR, Carcangiu LM, Herrington SC, Young HR. WHO classification of tumors of female reproductive organs . 4thEd. Lyon:2014;121-154.
3. Sharma S. Secretory endometrial adenocarcinoma: A rare sequelae in a postmenopausal woman following tamoxifen therapy for breast cancer. J Mid-life Health 2020;11:171-4.
4. Wu, Chia-Jen & Peng, Yi-Jen & Yu, Mu-Hsien & Chen, Chi-Huang. (2007). Secretory Endometrial Adenocarcinoma in a Tamoxifen User with Breast Cancer After Menopause. Taiwanese journal of obstetrics & gynecology. 46. 88-90.
5. Pandey P, Mittal S, Goel A, Dixit A, Kapur K, Mahajan NC. Secretory carcinoma of endometrium: an unusual pattern. Basic and applied pathology 2011;4: 21-24.
6. Tobon H, Watkins GJ. Secretory adenocarcinoma of the endometrium. Int J Gynecol Pathol. 1985;4(4):328-35.
7. Mutter GL, Matias GX, Lax SF. The uterine Corpus. Robboy SJ, Mutter GL, Prat J, et al. Robboys pathology of the female reproductive tract. 2nd edition. US Elsevier. 2011: 393-426.
8. Hageman IS, Pfeifer JD, Huettner PC. The uterine corpus. Wick MR, Livolsi VA, Pfeifer JD,et al. Silverbergs principles and practice of surgical pathology and cytopathology. 6th edition.Vol 4. U.K Cambridge.2015: 2537-2607.