

CASE REPORT

Adult Granulosa Cell Tumor Associated with Endometrial Carcinoma

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ABSTRACT

Adult granulosa cell tumors account for approximately 1 and 2% of all ovarian tumors and 95% of all granulosa cell tumors. They occur more often in postmenopausal than in premenopausal women, with a peak incidence between 50 and 55 years of age. They are the most common estrogenic ovarian tumors diagnosed clinically. The typical endometrial reaction associated with functional tumors in this category is simple hyperplasia that usually exhibits some degree of precancerous atypicity. The incidence of associated endometrial carcinomas is under 5%, and most of these endometrial cancers are well-differentiated endometrioid adenocarcinomas that carry a good prognosis when detected early. We report the case of a 85-year-old woman with endometrial adenocarcinoma and adult granulosa cell tumor of the ovary who presented with postmenopausal bleeding and adnexal mass. She underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy, infracolic omentectomy, and pelvic lymphadenectomy, and the specimen was submitted for histopathological examination. She had a good postoperative recovery and was discharged 5 days after treatment. The association between adult granulosa cell tumors of the ovary and endometrial carcinomas is rare. A high index of suspicion and good imaging and histopathologic analyses are important in making this diagnosis.

Keywords: Endometrial carcinoma, Prognosis, Tumor.

How to cite this article: Baser A, Zaidi AK, Sanghvi N. Adult Granulosa Cell Tumor Associated with Endometrial Carcinoma. *J South Asian Feder Obst Gynae* 2016;8(3):246-248.

Source of support: Nil

Conflict of interest: None

Date of received: 3 May 2016

Date of acceptance: 15 June 2016

Date of publication: July 2016

INTRODUCTION

Adult granulosa cell tumors account for approximately 1 and 2% of all ovarian tumors and 95% of all granulosa cell tumors.¹ They occur more often in postmenopausal than in premenopausal women, with a peak incidence between 50 and 55 years of age. They are the most common estrogenic ovarian tumors diagnosed clinically. The typical

endometrial reaction associated with functional tumors in this category is simple hyperplasia that usually exhibits some degree of precancerous atypicity. According to the literature, the best estimate of the incidence of associated endometrial carcinomas is under 5%, and most of these endometrial cancers are well-differentiated endometrioid adenocarcinomas that carry a good prognosis when detected early. We report a case of a 85-year-old woman with endometrial adenocarcinoma and adult granulosa cell tumor of the ovary managed with good outcome.

CASE REPORT

An 85-year-old nulliparous woman presented with postmenopausal bleeding, foul smelling vaginal discharge, and pain in the lower abdomen for past 2 months. There was history of weight loss and decreased appetite for past 1 month. Her menarche was at the age of 14 years and she had attained menopause 30 years earlier. Her medical history revealed hypertension, hypothyroidism, and bronchial asthma. General examination revealed mild pallor and obesity. On gynecological examination, uterus was found to be bulky and left adnexa full. Abdominal ultrasonography revealed a normal-sized uterus with an endometrial thickness of 22 mm and a 5-cm left adnexal heteroechoic lesion adherent to uterus and left ovary (Figs 1 and 2). In view of postmenopausal bleeding and endometrial thickness, endometrial aspiration was done and endometrioid type of endometrial adenocarcinoma was reported. Considering the coexisting endometrial carcinoma and adnexal mass, magnetic resonance imaging was performed, which revealed large heterogeneous soft tissue lesion in the endometrial cavity arising from the posterior fundal wall and a large solid neoplastic lesion in the left ovary adherent to the left cornu. Right ovary was unremarkable and no ascites was noted. Also, few enlarged lymph nodes in bilateral internal iliac region were found (Figs 3 and 4). Decision for staging laparotomy was taken with the provisional diagnosis of coexistent endometrial and ovarian malignancy. The patient underwent staging laparotomy, which revealed enlarged uterus with multiple fibroids and a 6×5×5 cm³ solid left ovarian tumor. The right ovary and fallopian tube were normal, and there was no ascites. Peritoneal washings were sent for cytology. On exploration, intestines, liver and biliary tract, pancreas, omentum, and fallopian tubes were without lesions. The

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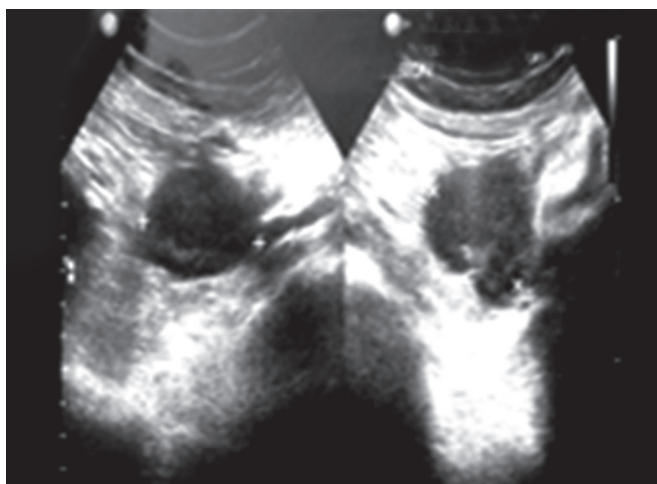


Fig. 1: Ultrasound plate showing left adnexal mass

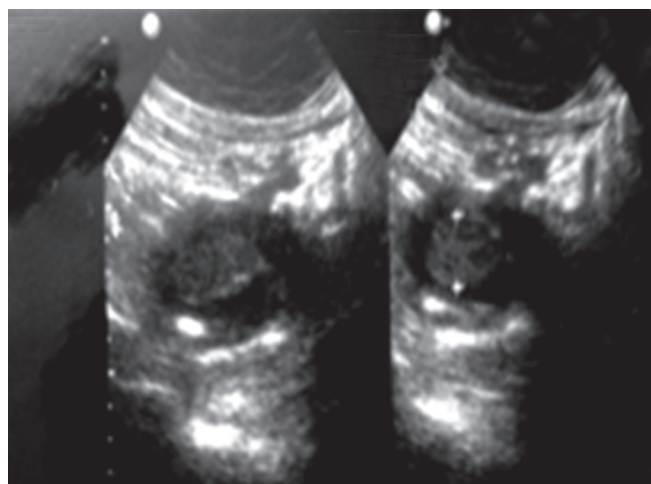


Fig. 2: Ultrasound plate showing thickened endometrium

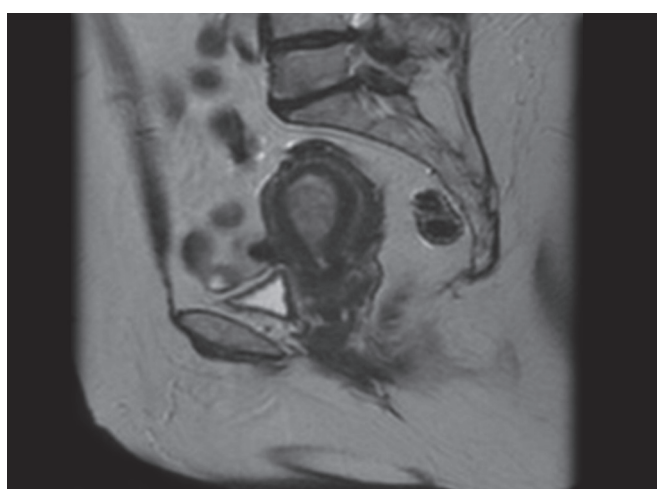


Fig. 3: Magnetic resonance imaging plate showing sagittal section of uterus

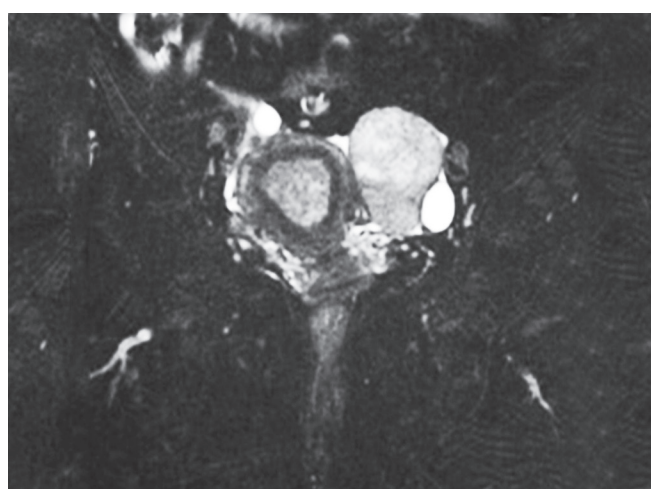


Fig. 4: Magnetic resonance imaging plate showing uterus with neoplastic ovarian mass

patient underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy, infracolic omentectomy, and pelvic lymph assessment done and the specimen was submitted for histopathological examination. She had a good postoperative recovery and was discharged 5 days after treatment.

On pathological examination, cut section of the uterus revealed a 3.5×2 cm soft endometrial polyp with adjacent friable soft endometrium. Tumor infiltration was less than half thickness of myometrium. The left ovary was soft and solid measuring $6 \times 5 \times 5$ cm and the cut section was gray tan to yellow occupying the entire ovary. The right ovary, omentum, and bilateral fallopian tubes were grossly normal. On microscopic examination, endometrium showed endometrioid-type adenocarcinoma (Fig. 5), and the left ovary showed features of a stromal tumor with tumor cells arranged in sheets, with some appearing like theca granulosa and luteal cells (Fig. 6).

The final diagnosis was adult granulosa cell tumor with stage 1 endometrioid-type endometrial adenocarcinoma.

Therefore, no adjuvant radiotherapy or chemotherapy was advised. At the 2-week follow-up visit after surgery, the patient no longer had vaginal bleeding. Her vital signs were normal, and her abdominal wound was well healed. She was last seen 5 months after surgery and had no new complaints.

DISCUSSION

Adult granulosa cell tumors account for approximately 95% of all granulosa cell tumors.¹ They occur more often in postmenopausal than in premenopausal women.¹ Women usually present with abnormal uterine bleeding and an adnexal mass revealed on imaging. The synchronous occurrence of carcinoma confined to the ovary and endometrium presents a diagnostic and therapeutic dilemma. Therefore, such cases must be dealt with a high index of suspicion. This was the case with our patient, who had postmenopausal bleeding along with a suspected neoplastic ovarian mass. The typical

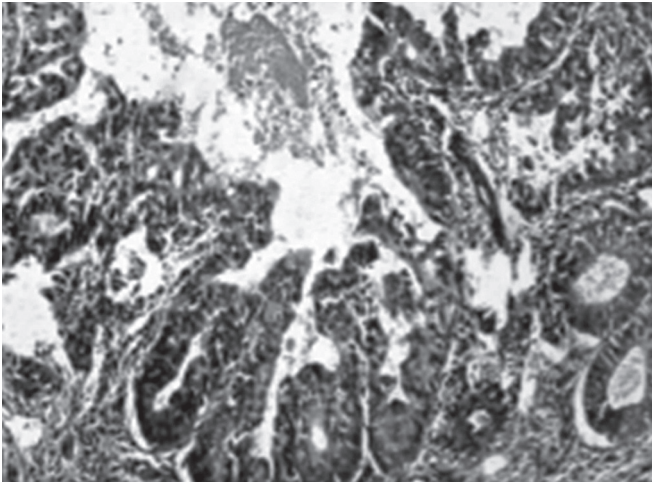


Fig. 5: Malignant cells arranged in glandular pattern

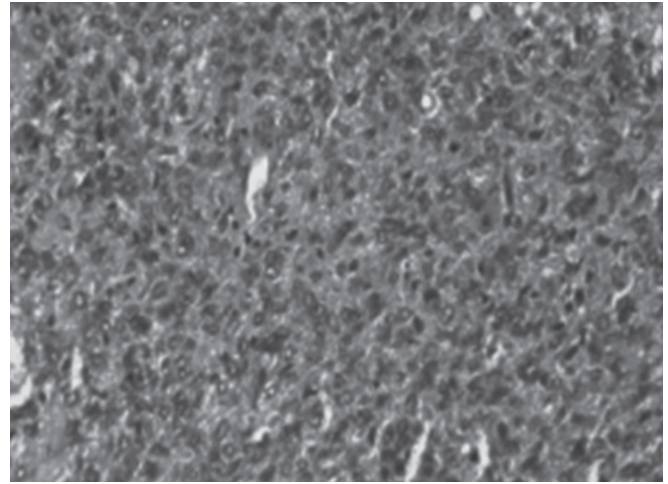


Fig. 6: Uniform tumor cells possessing oval- to bean-shaped nuclei and amorphous cytoplasm

endometrial reaction associated with functional tumors is simple hyperplasia, and if strict criteria for the diagnosis of carcinoma are used, the best estimate of the incidence of associated endometrial carcinomas is under 5%.¹ Our patient had adult granulosa cell tumor of the ovary along with endometrial carcinoma. The peak incidence of granulosa cell tumor is between 50 and 55 years of age, but our patient presented at 85 years, further explaining the development of endometrial carcinoma due to long-standing effect of estrogen.

Endometrial cancer associated with adult granulosa cell tumor is usually of type 1 variety. This type, comprising about 80% of the cases, is characterized by well-differentiated tumors that present with localized disease. These patients usually have a favorable outcome.^{2,3} The development of type 1 endometrial cancer is associated with excessive estrogen exposure. The risk factors for type 1 endometrial carcinoma include obesity, nulliparity with a history of infertility, late menopause, diabetes mellitus, unopposed estrogen therapy, tamoxifen therapy, and the use of sequential oral contraceptive pills. Excess estrogen from any of these sources produces continuous stimulation of the endometrial lining, which can result in endometrial hyperplasia and can potentially lead to endometrial cancer.^{4,5} Our patient was a nulliparous woman with obesity and excess estrogen due to hormone-producing granulosa cell tumor.

Granulosa cell tumors cause endometrial cancer by virtue of continuous and unopposed estrogen secretion by the ovary.⁶ In these patients, estrogen-dependent endometrial cancers can be found, and most of them are well-differentiated endometrioid adenocarcinomas that carry a good prognosis when detected early.⁷ This was the case with our patient, who had a well-differentiated, endometrioid adenocarcinoma and the International Federation of Gynecology and Obstetrics (FIGO) stage 1A disease. Therefore, surgical management alone

was offered and no adjuvant therapy was needed, and her follow-up examination 6 weeks after surgery was satisfactory.

CONCLUSION

The association between adult granulosa cell tumors of the ovary and endometrial carcinomas is rare. A high index of suspicion and good imaging and histopathologic analyses are important in making this diagnosis.

ACKNOWLEDGMENT

Authors sincerely thank Dr. Satish Pathak from the Department of Pathology, Medicare hospital and Dr. Rakesh Gupta, MRI division, Sodani diagnostics.

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