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CASE REPORT

Concomitant Endometrioid Adenocarcinoma of the Uterus and Adult Granulosa Cell Tumor of the Ovary Managed by Minimally Invasive Surgery: A Case Report

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Introduction

Granulosa cell tumors are rare tumors of the ovary and are a low-grade malignancy. They are seen in women of all ages and may secrete estrogen. They are classified as sex cord stromal tumors. Due to their inherent estrogenic property, there is propensity of the endometrium to undergo hyperplasia in 25–50% of cases and develop endometrial cancer in about 5%. We report a case of postmenopausal women with endometrioid adenocarcinoma with granulosa cell tumor managed by minimal invasive surgery.

Case Report

A sixty-two year lady, para one, known case of diabetes mellitus presented with history of postmenopausal bleeding in October 2012. On examination clinically, the uterus was bulky and both fornices appeared free and cervix appeared normal. Ultrasonography of abdomen and pelvis revealed a bulky uterus measuring 6.7 × 4.2 × 5.7 cm with a endometrial thickness of 7 mm. A 3.8 × 3.8 × 3.2 cm mildly bulky ovary was incidentally detected with foci of calcification. Findings were confirmed on contrast CT scan. Cervical cytology was normal; however, endometrial sampling was suggestive of well-differentiated endometrioid adenocarcinoma with histological grade one and nuclear grade two tumor with stromal invasion. Tumor markers done in view of bulky right ovary were within the normal range including epithelial tumor markers (CA125, CEA, CA19-9) and sex cord stromal tumor markers inhibin B.

Patient was selected for total laparoscopic hysterectomy, bilateral salphingooophorectomy and a staging laparotomy which included peritoneal washings, bilateral pelvic lymphadenectomy, para-aortic lymphnode dissection and omental biopsy and frozen section analysis of the specimen. Patient, however, did not consent to para-aortic lymphnode dissection in view of the possibility of major vascular and bowel injury, and hence, even infracolic omentectomy was not performed; however, grossly omentum appeared normal and a sufficient dimension of the omentum was procured for histopathological assessment. Intraoperative course was uneventful with surgery lasting for 240 min, and blood loss was to the tune of 50 cc. Intraoperative panoramic view is shown in Fig 1. Specimen extraction was done using endobag through the vaginal vault.

Frozen section analysis of the specimen revealed right ovarian adult granulose cell tumor (grade 1) without ovarian surface or capsular involvement (Fig 2). Tumor measured 3 × 2.2 × 2 cm without lymphovascular space invasion. Analysis of uterine specimen revealed grade 1 well-differentiated endometrioid adenocarcinoma with less than half of myometrial invasion and absent lymphovascular space invasion. Peritoneal cytology, omentum (measuring 13 × 7 cm grossly normal), cervix fallopian tubes, left ovary and all seventeen pelvic lymph nodes were free of tumor.

Final diagnosis was uterine adenocarcinoma stage 1A grade 1 with adult granulose cell tumor of ovary stage 1A grade 1. Uterine lesion occurred most probably due to the estrogenic effects of the ovarian stromal sex cord tumor. No adjuvant therapy was indicated, and patient was on regular surveillance.

Patient tolerated the surgery well and was discharged the next day and is on regular follow-up and disease free for 62 months.

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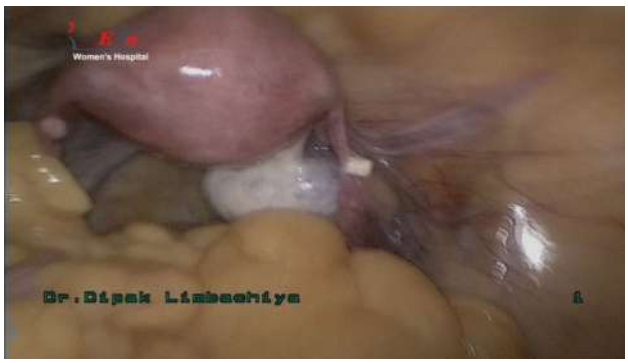

Fig. 1 Uterus with Right ovarian mass

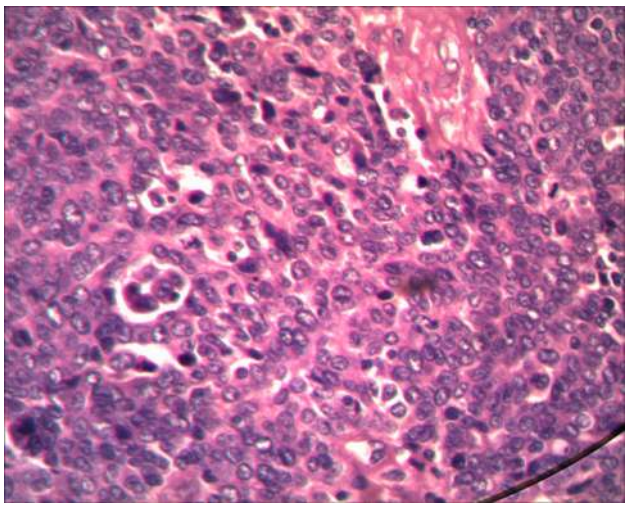

Fig. 2 Microscopic section of the adult granulosa tumour

Discussion

Sex cord stromal tumors of the ovary account for approximately 5–8% of all ovarian malignancies [1]. They are derived from the sex cords and the ovarian stroma or mesenchyme, and are usually composed of various combinations of elements, including the "female" cells (i.e., granulosa and theca cells) and "male" cells (i.e., Sertoli and Leydig cells), as well as morphologically indifferent cells.

Granulosa cell tumors, which may secrete estrogen, are seen in women of all ages and are classified as either adult granulosa cell tumors or juvenile. Five percent of cases are found in prepubertal girls; the others are distributed throughout the reproductive and postmenopausal years [2]. They are bilateral in only 2% of patients. In postmenopausal women, abnormal uterine bleeding is frequently the presenting symptom.

Endometrial cancer occurs in association with granulosa cell tumors in at least 5% of cases, and 25–50% are associated with endometrial hyperplasia [1].

Granulosa cell tumors are usually stage 1 at diagnosis but may recur 5 to 30 years after initial diagnosis [2]. The tumors may also spread hematogenously, and metastases can develop in the lungs, liver and brain years later.

With regards to our case, we strongly suspect the granulosa cell tumor to be a causative factor in the occurrence of endometrial carcinoma. In patients with granulosa cell tumors, estrogen-dependent endometrial cancers can be found, and most of them are well-differentiated endometrioid adenocarcinomas that carry a good prognosis when detected early [2]. This was the case with our patient, who had a well-differentiated, nuclear grade 1 endometrioid adenocarcinoma and FIGO stage 1A disease.

Endometrial cancer is the most common genital cancer in women in developed countries. The mean age of diagnosis of endometrial cancer is 60 years. A distinction is made between two types of endometrial cancer. Type I (endometrioid, 80–90%) represents estrogen-dependent tumors responding to treatment with progestogens. It is associated with good prognosis (the total 5-year survival rate is 75–85%). Type II (non-endometrioid, 10–20%) may be independent from unrestrained estrogen stimulation. Tumors of type II are poorly differentiated and aggressive histologically (carcinoma, papillary serous) and are associated with a lower total 5-year survival rate (35%) [3].

Most patients can be diagnosed at an early stage of the disease. Often, the first manifestation is abnormal vaginal bleeding, especially in postmenopausal women. Bleeding is diagnosed with fractional curettage or aspiration biopsy.

The cornerstone of treatment for endometrial cancer is total hysterectomy and bilateral salpingooophorectomy; this operation should be performed in all cases whenever feasible. This procedure should be extended to additional pelvic lymphadenectomy in some specific cases. They are as follows: moderately or poorly differentiated (grade G2 or G3 cancer), clear cell or serous cancer, and when the infiltration through the myometrium is over 50%, although accurate indications for these procedures are not clear and are still controversial [4]. Minimally invasive approaches are replacing open laparotomy for most patients with endometrial cancer.

In our center, all endometrial carcinomas are staged using minimally invasive modality [laparoscopy], and frozen section analysis of the uterine specimen is done to assess the need for additional procedures like parametrectomy and/or para-aortic lymphnode dissection.

Laparoscopic surgery for endometrial cancer was first reported in 1992 by Childers and Surwit [5]. According to some prospective studies, the recurrence and survival rates among patients who underwent laparoscopic treatment of endometrial cancer seem to be similar to those observed among patients after laparotomy [6]. Many authors have reported that dissection of lymph nodes by a less invasive

method, i.e., laparoscopy, is connected with a better post-operative course. Furthermore, higher precision during laparoscopy is observed as a result of a special optic system which gives a surgeon an enlarged view. Additionally, short duration of hospitalization, less blood loss and fast convalescence after laparoscopic surgery allow patients to begin adjuvant therapy more quickly [7].

This case is unique in the sense that the entire staging laparotomy was achieved using laparoscopy for both the uterine tumor and its etiological counterpart in the ovary. This further emphasizes the role of laparoscopy in the management of low-grade tumors like granulosa cell tumors particularly in early stage disease.

Conclusion

From this case, it is imperative to have heightened clinical suspicion of endometrial carcinoma any time that a diagnosis of granulosa cell tumor is made or vice versa. Also the role of minimally invasive surgery in the management of granulose cell tumors and endometrial carcinoma cannot be undermined and should be the standard of care in early stage disease.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

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