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A RETROSPECTIVE STUDY OF RECURRENCE OF GRANULOMA CELL TUMOUR OF THE OVARY

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Abstract

Introduction: Granulosa cell tumours (GCT) are extremely rare ovarian cancers that account for 2 to 3% of all ovarian cancers and mostly affect adults. They are caused by sex cord tumours and stroma. In comparison to epithelial ovarian cancers, they have a favourable prognosis. There are two histological forms: an adult form (95%) and a juvenile form (5%), which is distinguished by early occurrence, more pronounced signs of malignancy, and an increased risk of recurrence.

Materials and Methods: A retrospective study of all patients with granuloma cell tumour diagnosed and treated in Department of Radiotherapy, Midnapore Medical College, West Bengal from January 2012 to December 2019. Quantitative variables were expressed using mean and median values. Qualitative variables are expressed as absolute and relative frequencies. Statistical analyses were performed using SPSS 20.0 software. Kaplan-Meier's statistical method was used to assess the recurrence free survival and overall survival.

Results: 40 women with a mean age of 56 years using (36-76 years) were included in the study. 61% of cases presented with abdominal mass and/or abdominal pain. Postmenopausal bleeding was reported in 32% of cases. Ultrasound imaging was performed in all cases and showed mainly cystic unilateral mass (96.2%). Median tumour size was 20 cm (4- 33 cm). Abnormally elevated levels of serum tumour marker CA-125 were reported in 63.8% of patients. The staging was as follows: stage I represents 70%, stage III 23.8%, and stage IV 6.2%. The primary treatment was surgery in all cases. Intraoperative tumour rupture occurred in 10 patients. Adjuvant treatment was chemotherapy. Adjuvant chemotherapy was a platinum-based regimen: some cases needed adjuvant radiotherapy.

Conclusion: Granulosa cell tumour is an uncommon ovarian neoplasm. It is known for relapse even years after a curative treatment. Hence, an active lifelong follow-up is recommended with clinical examination and tumour markers such as inhibin B. Disease stage and effective primary surgery with the standard adjuvant therapy seem to be the only reliable prognostic factors.

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Key Words: Granulosa cell tumours, ovarian cancers, inhibin B, Ultrasound.

INTRODUCTION

Granulosa cell tumours (GCT) are extremely rare ovarian cancers that account for 2 to 3% of all ovarian cancers and mostly affect adults.[1] They are caused by sex cord tumours and stroma. In comparison to epithelial ovarian cancers, they have a favourable prognosis.[2] There are two histological forms: an adult form (95%) and a juvenile form (5%), which is distinguished by early occurrence, more pronounced signs of malignancy, and an increased risk of recurrence.[3]

When compared to primary ovarian cancers, malignant sex cord tumour cells are diagnosed at an earlier stage and are considered low-grade malignancies. Granulosa cell tumours exhibit hyperoestrogenism symptoms such as abnormal vaginal bleeding and early puberty.[4]

In the early stages, complete surgery is the mainstay of treatment. In advanced stages, adjuvant platinum-based chemotherapy is indicated. Although granulosa cell tumours have a favourable prognosis, late relapses are known to occur due to the disease's indolent nature. In comparison to epithelial ovarian cancer, advanced disease has a poor prognosis with a 5-year survival rate of 0-20%.[5]

Age, tumour size, tumour stage, bilaterality, postoperative residual tumour status, and a high mitotic index are the most common prognostic factors in granulosa tumours.[6]

The goal of this study was to describe epidemiologic factors in the Indian population, as well as the incidence of relapse and prognosis.

MATERIALS AND METHODS

Study design: A retrospective study.

Study location: A retrospective study of all patients with granuloma cell tumour diagnosed and treated in Department of Radiotherapy, Midnapore Medical College, West Bengal.

Study duration: January 2012 to December 2019.

Sample size: 40 patients.

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RESULTS

40 women with a mean age of 56 years using (36-76 years) were included in the study. 61% of cases presented with abdominal mass and/or abdominal pain. Postmenopausal bleeding was reported in 32% of cases. Ultrasound imaging was performed in all cases and showed mainly cystic unilateral mass (96.2%). Median tumour size was 20 cm (4- 33 cm). Abnormally elevated levels of serum tumour marker CA-125 were reported in 63.8% of patients. The staging was as follows: stage I represents 70%, stage III 23.8%, and stage IV 6.2%. The primary treatment was surgery in all cases. Intraoperative tumour rupture occurred in 10 patients. Adjuvant treatment was chemotherapy. Adjuvant chemotherapy was a platinum-based regimen: some cases needed adjuvant radiotherapy.

	Parameter	Percentage
Age	>60	76
	<60	24
Menopausal status	Premenopausal	51
	Postmenopausal	48
Symptoms at Diagnosis	Abdominal uterine bleeding	54
	Abdominal pain	20
	Abdominal distension	14
	Asymptomatic	13
Preoperative Endometrium	Not assessed	46
	Normal	3
	pathological	51
Preoperative CA 125	Normal	36
	Elevated	64

Table 1: Patient Characteristics

		Percentage
Ovarian Tumour	Unilateral	96
	Bilateral	4
Ascites	Present (Total)	28
	In stage I	59
	In stage 3-4	13
Initial surgeries	Primary staging	86
	Re staging	14
Surgical stages	1	70
	3	23
	4	7
Retroperitoneal Lymph Nodes	Present	8
	Absent	92
Peritoneal Spread	Present	16
	Absent	84

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Table 2: Surgical and Pathological Characteristics of Patients

Initial stage	Adjuvant treatment	Site of Recurrence	Recurrence time (Months)
4	CT & RT	Abdomen	36
1	None	Pelvis	54
3	CT & RT	Abdomen	26
1	None	Pelvis	46
3	RT	Pelvis	47
3	CT	Pelvis	39
1	CT	Abdomen	60
4	CT & RT	Abdomen	21
3	CT & RT	Abdomen	31

Table 3: Characteristics of Patients with Recurrences (All Underwent Surgery)

DISCUSSION

GCT is a very rare tumour with an excellent prognosis. Because it is a rare disease, there is little information available. Our population's clinical findings are comparable to those found in the literature. GCTs are most common in menopausal or postmenopausal women.[7]

Postmenopausal bleeding, amenorrhea, and intermenstrual bleeding are the most commonly reported symptoms in the literature (30% to 50%). The size reported in the literature is usually greater than 10 cm (73.5%), but it can range from a small nonpalpable lesion to large masses (3-24 cm). GCT appears in the early stages in 81% of cases (71% in stage I; 10% in stage II) and late stages in 19% of cases (11% in stage III; 8% in stage IV). The largest tumour size in our study was 33 cm with stage III (19%), and large tumours were common. The prevalence of stage IV disease was comparable to the literature (10%). The pulmonary and skeletal metastases of GCTs are uncommon; 15% of relapses occurred in retroperitoneum nodes.[8]

A complete surgery with ideal primary cytoreduction is the mainstay of treatment. Adjuvant chemotherapy is recommended for patients with advanced or recurrent disease, as well as those at high risk in the early stages. The most commonly used chemotherapy regimens are BVP (bleomycin, vinblastine, and cisplatin) or BEP (bleomycin, etoposide, and cisplatin).[9]

Only 9% of cases had abdominopelvic recurrence, 6% had retroperitoneal recurrence, 6% had pelvic and retroperitoneal recurrence, and 3% had abdominopelvic and retroperitoneal recurrence. Recurrences in our study were mostly found in the pelvis (60%).[10]

In most cases, a multidisciplinary treatment approach consists of primary cytoreduction followed by chemotherapy, and in some cases, radiotherapy may also be used to extend DFS. Brown et al.

treated 8 patients with recurrent GCT with bevacizumab. The response rate was 38%, with a 7.2-month median progression-free survival.

CONCLUSION

Granulosa cell tumour is an uncommon ovarian neoplasm. It is known for relapse even years after a curative treatment. Hence, an active lifelong follow-up is recommended with clinical examination and tumour markers such as inhibin B. Disease stage and effective primary surgery with the standard adjuvant therapy seem to be the only reliable prognostic factors.

REFERENCES

1. Young RH, Dickersin GR, Scully RE: Juvenile granulosa cell tumor of the ovary. A clinicopathological analysis of 125 cases. Am J Surg Pathol. 1984, 8: 575-596.
2. East N, Alobaid A, Goffin F, Ouallouche K, Gauthier P: Granulosa cell tumour: a recurrence 40 years after initial diagnosis. J Obstet Gynaecol Can. 2005, 27: 363-364.
3. Gittleman AM, Price AP, Coren C, Akhtar M, Donovan V, Katz DS: Juvenile granulosa cell tumor. Clin Imaging. 2003, 27: 221-224. 10.1016/S0899-7071(02)00586-7.
4. Fujimoto T, Sakuragi N, Okuyama K, Fujino T, Yamashita K, Yamashiro S, Shimizu M, Fujimoto S: Histopathological prognostic factors of adult granulosa cell tumors of the ovary. Acta Obstet Gynecol Scand. 2001, 80: 1069-1074.
5. Bompas E, Freyer G, Vitrey D, Trillet-Lenoir V: Granulosa cell tumour: review of the literature. Bull Cancer. 2000, 87: 709-714.
6. Pankratz E, Boyes DA, White GW, Galliford BW, Fairey RN, Benedet JL: Granulosa cell tumors: clinical review of 61 cases. Obstet Gynecol. 1978, 52: 718-723.
7. Segal R, DePetrillo AD, Thomas G: Clinical review of adult granulosa cell tumors of the ovary. Gynecol Oncol. 1995, 56: 338-344.
8. Calaminus G, Wessalowski R, Harms GD, Öbel U: Juvenile granulosa cell tumors of the ovary in children and adolescents: results from 33 patients registered in a prospective cooperative study. Gynecol Oncol. 1997, 65: 447-452.
9. Outwater EK, Wagner BJ, Mannion C, McLarney JK, Kim B: Sex cord-stromal and steroid cell tumors of the ovary. Radiographics. 1998, 18: 1523-1546.
10. Stuart GC, Dawson LM: Update on granulosa cell tumours of the ovary. Curr Opin Obstet Gynecol. 2003, 15: 33-37.