Print ISSN: 2321-6379
Online ISSN: 2321-595X

Case Report

Granulosa Cell Tumor of Ovary - Clinicopathological Study of Rare Case

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Abstract

Granulosa cell tumor of the ovary is a rare malignant ovarian tumor that constitutes only 1–2% of all ovarian tumors. Ovarian granulosa cell tumor has relatively low-degree malignant potential, slow growth, late recurrence, and a good prognosis. The aim of this case report study is to report this ovarian tumor in the contest with its clinical, gross, and microscopic findings. We report a case of 45-year-old female who presented with abdominal pain and menorrhagia, and USG revealed a left adnexal mass. An ovarian granulosa cell tumor diagnosis was given after histopathological examination. Granulosa cell tumor ovary is a rare ovarian tumor entity. An important prognostic factor is the stage of the tumor and histopathological features. Hence, staging and histopathological features help in survival prediction. Therefore, we are presenting this case report, and in addition, due to the rarity of this disease, such a study must be reported to derive consensus.

Key words: Coffee bean nuclei, Granulosa cell tumor, Ovarian tumor

INTRODUCTION

Granulosa cell tumor of the ovary is a rare malignant ovarian tumor that constitutes only 1–2% of all ovarian tumors. It belongs to the family of sex cord-stromal ovarian tumors.[1-3]

Ovarian granulosa cell tumor has relatively low-degree malignant potential, slow growth, late recurrence, and a good prognosis.[4]

There are two histological types of granulosa cell tumors: Adult form (95%) and juvenile form (5%). Juvenile form occurs at an early age with a relatively high degree of malignant potential and an increase risk of recurrence as compared to adult form.[5,6]

Endometrial hyperplasia and carcinoma are reported in many cases of granulosa cell tumors.[2] The aim of this study is to report this ovarian germ cell tumor in the contest with its clinical, gross, and microscopic findings.

Access this article online

www.ijss-sn.com

Month of Submission : 09-2023
Month of Peer Review : 09-2023
Month of Acceptance : 10-2023
Month of Publishing : 11-2023

CASE REPORT

A 45-year-old female presented to the Gynaecology Department, Sir T. Hospital, Bhavnagar, with complaints of abdominal pain and menorrhagia on December 01, 2020. Ultrasonography of the abdomen and pelvis revealed a left adnexal solid cystic mass and mild heterogeneity. A provisional diagnosis of an ovarian tumor was made. The surgeon performed a total hysterectomy with the removal of the left ovarian mass, the left fallopian tube, the right fallopian tube, and the right ovary. Omental tissue was also sent to the histopathology laboratory for checking metastasis.

The size of the left ovarian mass was 13×9×8.5 cm with a globular shape. On cut, an open solid cystic area is present with hemorrhage.

Sections from various representative areas were given, including the left ovarian mass as well. Histopathological examination of the left ovarian mass shows tumor cells in a nesting pattern, a cord pattern, and, at some places, a papillary pattern within the stroma. Tumor cells were large, round to oval in shape, and had nuclear grooves like coffee

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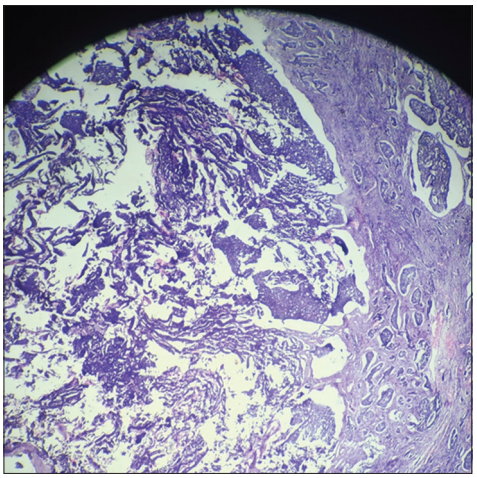

Figure 1: Photomicrographs of ovarian Granulosa cell tumors

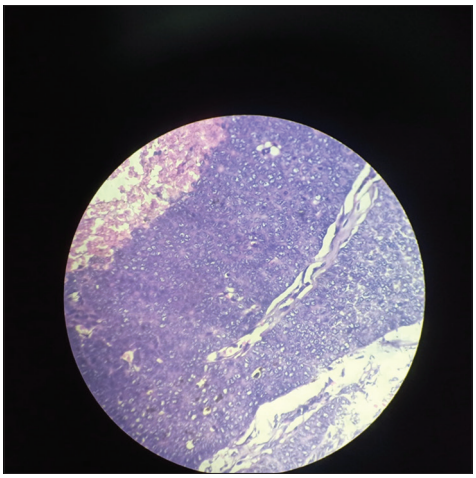

Figure 3: Photomicrographs of ovarian Granulosa cell tumors

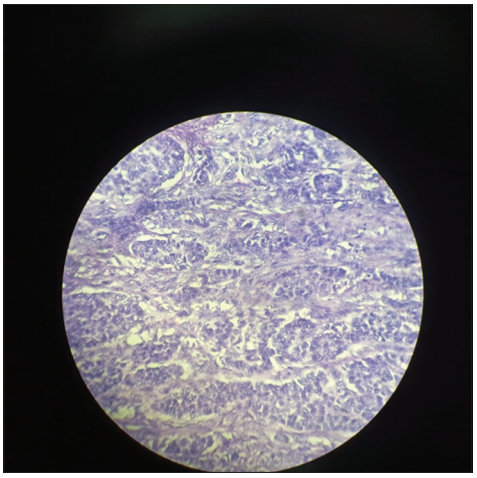

Figure 2: Photomicrographs of ovarian Granulosa cell tumors

Figure 4: Gross appearance of ovarian Granulosa cell tumors

bean nuclei and scanty cytoplasm. Call-Exner bodies are present. Areas of necrosis and hemorrhage are also seen.

Sections from the cervix, myometrium, right ovary, and right fallopian tube show no remarkable pathology. Sections from the endometrium show endometrial hyperplasia. There were 2–4 mitotic figures/10 high-power fields. The final diagnosis of an ovarian granulosa cell tumor of the left ovary was given with the tumor, nodes, and metastases Stage 1A (T1NOMO) and FIGO 1A.

DISCUSSION

Granulosa cell tumor of the ovary was described by Rokitansky in 1855.[7,8] Adult form is more common, with a good prognosis and relatively low-degree malignant potential,[5,6] which correlates in our case report as well.

Ovarian granulosa cell tumor patients usually present with abdominal pain, abdominal distention, or hormonal effects such as irregular menstruation, intermenstrual bleeding, or amenorrhea.[9] In our case as well, complaint was abdominal pain and menorrhagia. In our case, the patient presented with endometrial hyperplasia, which is due to the endometrial response to estrogenic stimulation.

Ultrasonography in granulosa cell tumors and gross features usually show solid cystic areas with hemorrhage and a mean diameter of 10–12 cm, which correlates with our case report as well.[10]

Ovarian granulosa cell tumor adult form includes various histopathological patterns such as follicular, trabecular, spindle, insular, and nest commonly [3,11] with the presence of Call-Exner body and coffee bean nuclei. In our case report, Call-Exner body, coffee bean nuclei, and nest pattern are present, which correlate with the above study, but in our report, the observed papillary pattern is a contrasting feature.

The 5-year survival rate of Stage 1 granulosa cell tumors is 90–100%. In our case report as well, the patient had a Stage 1 granulosa cell tumor.[12] Histological grade and mitotic figure have an inverse relationship with survival rate.[13] In the present case report, tumor was well differentiated with a mitotic Figure 2-4 / 10 high-power field, which indicates toward a good prognosis.

CONCLUSION

Granulosa cell tumor ovary is a rare ovarian tumor entity. An important prognostic factor is the stage of tumor and histopathological features. Hence, staging and histopathological features help in survival prediction. Due to the rarity of this disease, such a study must be reported to derive consensus.

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How to cite this article: Goswami PR, Goswami AP. Granulosa Cell Tumor of Ovary - Clinicopathological Study of Rare Case. Int J Sci Stud 2023;11(8):6-8.

Source of Support: Nil, **Conflicts of Interest:** None declared.