

# Primary Ovarian Carcinoid Tumor: Case Report

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## Abstract

Ovarian germ cell tumours are rare. Of the germ tumours the dermoid cyst is the most common; however the association of carcinoid tumour with the dermoid cyst is exceptional. We report a case of a 38-years-old woman diagnosed with primary carcinoid tumor of the right ovary arising in mature cystic teratoma. It is the histological examination, with the immunohistochemical study that allowed the positive diagnosis. Surgical treatment often consists of unilateral anexectomy.

**Keywords:** Ovary, Teratoma, carcinoid, immunohistochemistry.

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## INTRODUCTION

Mature cystic teratoma (MCT) or dermoid cyst represent 10- 20% of all ovarian neoplasm [1]. Primary ovarian carcinoids are rare, accounting for 0.3% of all carcinoid tumors and the majority of them are associated with MCT [2]. Primary ovarian carcinoid neoplasms are usually unilateral, localized to the ovary and indistinguishable histologically from metastasis. She belongs to the germ cell family of ovarian malignancy, which is an intimate admixture of normal thyroid tissue and carcinoid. This tumor often arise within a cystic teratoma or a dermoid tumor.

## Case presentation

A 38-year-old woman, with no past medical history, presented an abdominal discomfort associated with diffuse abdominal pain. Gynecological and obstetrical history: Menarche at age 13 years; Regular menstrual cycles, three deliveries and two abortions. Physical examination: Uterus of normal size, mobile cervix. It is not possible to feel mass in bimanual touch.

Radiologic and histopathologic findings: Abdominal ultrasonography demonstrated a right cystic adnexal image of 77 × 35 mm, with fine echogenic dotting without endocystic vegetation; Uterus of normal size and morphology. Left ovary is not seen.

Pelvic magnetic resonance imaging (MRI): Pelvic tumor of approximately 67 × 38 mm of suprauterine location with a thin hypointense capsule

with well-defined which impresses of mature cystic teratoma as the first diagnostic possibility.

The carbohydrate antigen 125 (CA 125) was 8 U/mL (normal range <35 U/mL) and the alpha foetoprotein (AFP) was 15 ng/ml (normal range: 10-200 ng/ml).

A right anexectomy was performed by laparoscopy. Examination of the abdominal cavity is normal. Right ovary, fallopian tubes and uterus are normal. The intervention went without incident. Postoperative evolution was favorable.

The surgical specimen was sent to the pathology anatomy laboratory. Macroscopic examination shows an ovary measuring 70x43 mm with fallopian tube 22 mm length. When slicing the specimen it was cystic with a solid area measures 42x27 mm. In the cystic component the wall is thickened with the presence of sebum and hair; The solid component measures 42x22 mm is fleshy (Figure 1)

The histological study, shows a dermoid cyst with the presence of a neuroendocrine differentiated cell territory carrying spans and cords separated by a fibro-vascular stroma (Figure 2).

In the immunohistochemical study: the insular component was positive for synaptophysin, chromogranin and focally CK7 (Figure 3).

The final diagnosis was: Mature cystic teratoma with a carcinoid (42 mm) combined pattern

insular and trabecular.

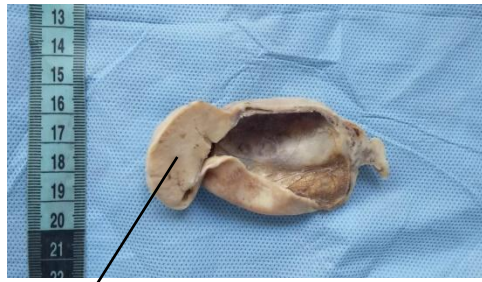


Fig-1: Macroscopic appearance: cystic ovarian mass with presence of hair, and showing a fleshy area (black arrow)

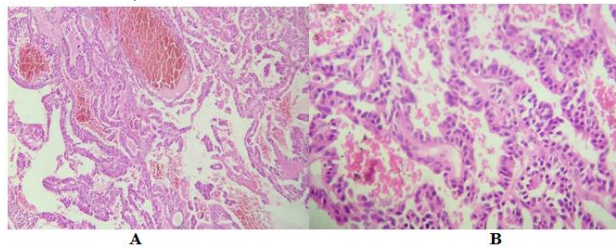


Fig-2: Tumor proliferation of endocrine architecture made of spans separated by fibro-vascular stroma at low magnification HEx100 (A) and at medium magnification HE x200 (B)

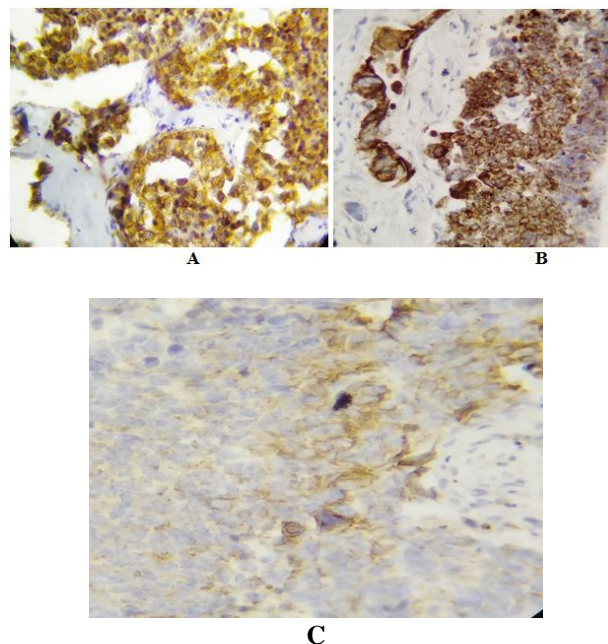


Fig-3: Immunohistochemical study: the insular component was positive for chromogranin (A), synaptophysin (B) and focally CK7 (C)

## DISCUSSION

Ovarian strumal carcinoid tumour has a very rare occurrence with 0.3 -1% incidence of all ovarian tumours and 3% of mature teratomas [3]. This type of tumor, derived from germ cells, is considered in the WHO classification as a highly specialized teratoma. Mature teratoma is associated in 75% of cases [4]. The carcinoids of the ovary are divided into four groups in order of frequency: insular, trabecular, stromal and mucinous carcinoids. The carcinoid stromal tumor of the ovary (TCSO) represents a distinct histological entity and consists of struma ovarii (thyroid

differentiated tissue) associated with insular or trabecular carcinoid tissue (neuroendocrine cells) [5].

Most tumours present in peri-or post-menopausal women with symptoms of enlarging mass or are just incidental findings [6] They most commonly appear as a unilateral mass ; Our patient is in genital activity who presented for a right unilateral mass. Regarding the clinical signs and symptoms, some patients present with typical signs and symptoms of the carcinoid syndrome such as episodic cutaneous flushing, abdominal cramps, diarrhoea. mediated by bioactive substances that

carcinoid tumour cells produce [7]. Carcinoid tumours secrete a wide variety of neurohumoral substances such as serotonin, histamine, bradykinin, substance P and prostaglandins [2]. In our case, the patient had no symptoms of carcinoid syndrome.

The established criteria used for differentiating metastatic tumors of the ovary from primary ovarian tumors are: tumor bilaterality, presence of multiple ovarian nodules and the finding of a primary tumor in the gastrointestinal tract, all favor metastasis to the ovary [8].

In most case, a definitive diagnosis is possible only on postoperative examination of multiple tissue sections [9]. Surgical excision is sufficient at the symptomatic and oncological level. Strict long-term monitoring nevertheless imposes in all cases. This follow-up consists of a clinicobiological examination with recourse to medical imaging in case of suspicion of recidivism. However, Radical hysterectomy and bilateral salpingo-oophorectomy may be considered in post-menopausal patients.

## CONCLUSION

The association of a carcinoid tumour with a teratoma is rare, of which there are not many cases published in the literature.

It is difficult to make a diagnosis of primary ovarian carcinoid tumor arising within a mature cystic teratoma of the ovary preoperatively, especially since it does not exist a carcinoid syndrom.

A thorough histopathological study of the tumor is very important and the surgical treatment adapted according to the characteristics of the patient [9].

## REFERENCES

1. Kurman, R. J., Carcangiu, M. L., Herrington, S., & Young, R. H. (2014). *WHO classification of tumours of female reproductive organs*. IARC.
2. Sharma, R., Biswas, B., Wahal, S. P., Sharma, N., & Kaushal, V. (2014). Primary ovarian carcinoid in mature cystic teratoma: A rare entity. *Clinical Cancer Investigation Journal*, 3(1), 80.
3. Antovska, V. S., Trajanova, M., Krstevska, I., Gosheva, I., Chelebieva, J., & Prodanova, I. (2018). Ovarian strumal carcinoid tumour: Case report. *Open access Macedonian journal of medical sciences*, 6(3), 540.
4. Kumar, V., Abbas, A. K., Fausto, N., Robbins, S. L., & Cotran, R. S. (2004). *Pathology Basis of disease. China: WB Saunders*.
5. Müngen, E., Ertekin, A. A., Yergök, Y. Z., Ergür, A. R., & Baloğlu, H. (1997). Primary mixed trabecular and insular carcinoid tumor of the ovary: a case report. *Acta obstetricia et gynecologica Scandinavica*, 76(3), 279-281.
6. Salhi, H., Laamouri, B., Boujelbène, N., Hassouna, J. B., Dhiab, T., Hechiche, M., & Rahal, K. (2017). Primary ovarian carcinoid tumor: a report of 4 cases. *International Surgery Journal*, 4(8), 2826-2828.
7. Leniček, T., Tomas, D., Soljačić-Vraneš, H., Kraljević, Z., Klarić, P., Kos, M., & Kos, M. (2012). Strumal carcinoid of the ovary: report of two cases. *Acta clinica Croatica*, 51(4.), 649-653.
8. Huang, Y., Kumarapeli, A., Chen, F., & Paczos, T. (2012). Primary mucinous carcinoid of the ovary arising in a mature cystic teratoma: a case report with review of the literature. *NAJ Med Sci*, 5, 239-242.
9. Gonzalez, M.D., Navarrete, S.V., Pena, R.J.(2018). Primary ovarian carcinoid tumor arising within a mature cystic teratoma in a 32-years-old patient. *Gynecol Reproduct Endocrinol –UK*, 2(1):2-4.