Strumal Carcinoid of the ovary: A Rare Ovarian Neoplasm

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Introduction

Strumal carcinoid is a very uncommon type of ovarian tumor, representing around 3% of all ovarian teratomas and less than 0.1% of ovarian tumors overall. Histologically, it contains a mixture of thyroid tissue and a well-differentiated carcinoid component. Affected women had wide age distribution in published studies ranging from 15-84 Yrs. Most patients fall in middle age to post-menopausal group. In symptomatic patient group it ranges from pelvic mass with compression effect to carcinoid syndrome or hormone related effects. Various histopathological pattern, mimicking other ovarian neoplasm, papillary thyroid carcinoma arising in thyroid tissue, as well as possibility of metastasis poses diagnostic challenge, hence patient should be managed carefully. (Antovska, et al., 2018).

Case Presentation

A 40 yrs old multiparous women with clinical presentation of abdominal pain, pelvic mass, constipation and menstrual irregularities, underwent, trans-vaginal ultrasonography which demonstrated 10.4×8.0 cm right sided ovarian complex solid-cystic mass. Laboratory data showed CA125: 5.6 u/ml (Ref: <30 u/ml), CA19-9 : 14.3 u/ml (Ref: <37 u/ml), CEA: 0.96 ng/ml (Ref: 0-3 ng/ml), -HCG :1.51 miU/ml (Ref: <6.15 miU/ml), AFP : 0.638 ng/ml (Ref: <8.00 ng/ml). Patient underwent laparoscopic salpingo-oophorectomy.

Macroscopy : On gross examination of right ovary it revealed 11×8×5 cm partially solid (50%) and partially cystic (50%) mass containing clear fluid. Solid area appeared to be homogenous yellow brown, on cut section bony hard area present.

Microscopy : Ectopic thyroid tissue with colloid filled follicles admixed with multiple foci of well differentiated neuroendocrine tumor arranged in insular and trabecular pattern in hyalinized stroma with characteristic salt & pepper chromatin nuclei. It also shows few foci of bony trabecule.

Discussion

Fewer than 200 cases of strumal carcinoid have been reported in the literature. The histogenesis of this tumor remains uncertain: while many authors consider it a form of germ cell tumor related to teratoma, others have suggested it may arise from hybrid cells capable of differentiating into both thyroid follicular and neuroendocrine elements (Kimura, N., Sasano, N. and Namiki, T., 1986). Sign and symptoms varies from abdominal pain, pelvic mass, constipation, menstrual irregularities to rarely functional thyroid tissue or typical carcinoid. Li et al., (2022) described abdominal pain/distention as most frequent followed by menstrual irregularities whereas Turla et al., (2022) mentioned constipation in 15% of patients. It is mostly unilateral and grossly solid firm to solid-cystic lesion with gray white to yellow on cut section. According to WHO, carcinoid are of four histological types including insular, trabecular, strumal and mucinous. Where insular is the most common type followed by strumal. In strumal carcinoid it can either be insular or trabecular or both forms intermixed with thyroid tissue. The differential diagnosis includes metastatic carcinoid to the ovary, granulosa cell tumor (micro-follicular) or metastatic thyroid carcinoma to the ovary. An admixture of thyroid and carcinoid components help establish the diagnosis. Strumal carcinoids are mostly confined to the ovary, indolent and resolve by surgery (salpingo-oophorectomy). Overall prognosis is favorable, with pooled analyses demonstrating a 5-year recurrence-free survival rate exceeding 95%, and disease-specific mortality being exceptionally rare. Most patients were disease free at last follow up. Our patient survived surgery and currently doing well.

Figures

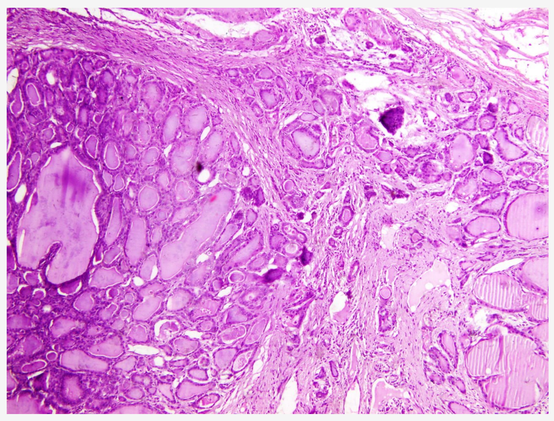

Figure 01: H & E stained section illustrates thyroid tissue with follicles and colloid (4×).

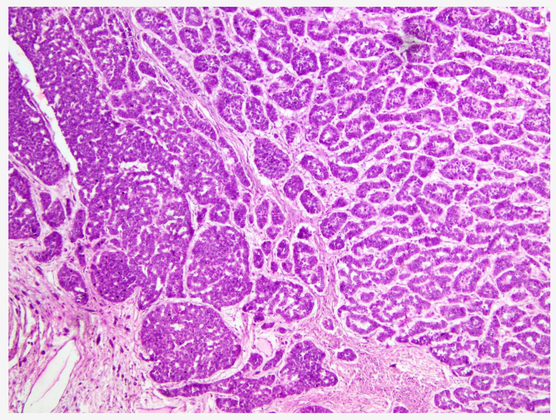

Figure 02: H & E stained section illustrates neuroendocrine component in insular and trabecular pattern (4×).

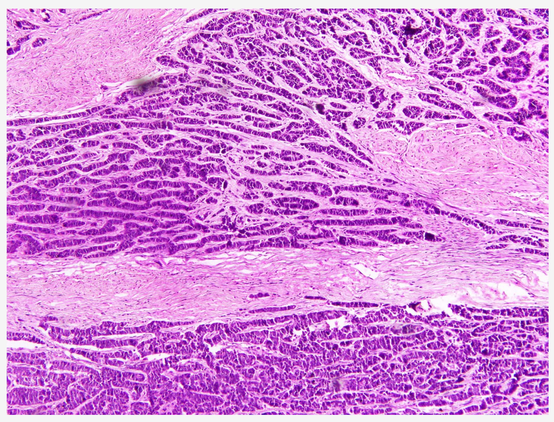

Figure 03: H & E stained section illustrates neuroendocrine component in hyalinized stroma (4×).

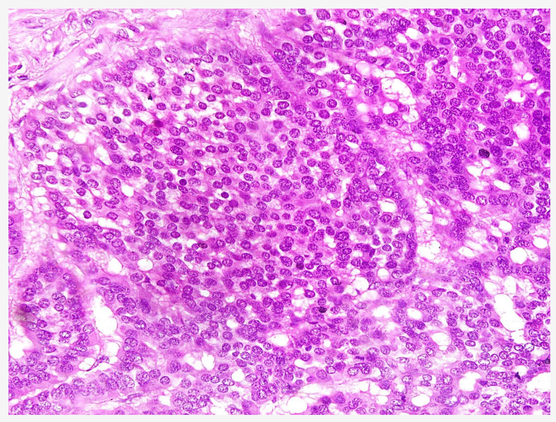

Figure 04: H & E stained section illustrates neuroendocrine component with salt & pepper chromatin (40×).

Conclusion

Strumal carcinoids are rare but common variant of monodermal teratoma presence as unilateral ovarian mass showing benign thyroid tissue admixed with well differentiated neuroendocrine tumor in various histopathological patterns. Surgery is the mainstay of treatment. No proven benefit from chemo or radiotherapy. It is important to identify this tumor both intra-operatively and post-operatively to avoid extensive surgery or unnecessary chemotherapy.

References

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