Case Report

Hyperthyroidism with Struma ovarii

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ABSTRACT

Struma ovarii or monodermal teratoma, is a specialized ovarian neoplasm composed entirely of mature thyroid tissue. It is a relatively rare tumor which comprises 1% of all ovarian tumors and 2.7% of all dermoid tumors. Its colour and consistency is like that of a thyroid tissue. The tissue may show any of the pathologic changes seen in a normally placed gland, including diffuse or nodular hyperplasia, thyroiditis, papillary carcinoma, follicular carcinoma and malignant lymphoma.

We reported a case of hyperthyroidism with struma ovarii. A 70 year old female was operated for ovarian mass. The sign and symptoms subside after operation.

Keywords: *Struma Ovarii, Hyperthyroidism, Oophorectomy*

Introduction

Benign ovarian teratomas account for approximately 11% of all ovarian tumors. Ovarian teratomas develop from a totipotent germ cell, are composed of fully differentiated histologic tissue, and frequently contain ectodermal, mesodermal, and endodermal structures. [1] Struma ovarii or monodermal teratoma is a specialized ovarian neoplasm composed entirely of mature thyroid tissue. [2] Struma ovarii is the expression of the dominant growth of thyroid tissue in a teratoma, sometimes to the exclusion of other components. [3] Thyroid tissue is observed not uncommonly in 5-15% of dermoid tumors, but to qualify as a struma ovarii tumor the thyroid proportion must comprise more than 50% of the overall tissue. [4] It is a relatively rare tumor which comprises 1% of all ovarian tumors and 2.7% of all dermoid tumors. [5] Its colour and consistency is like that of thyroid tissue but is often cystic. The tissue may show any of the pathologic changes seen in a normally placed thyroid gland including diffuse or nodular hyperplasia, thyroiditis, papillary carcinoma, follicular carcinoma and malignant lymphoma. [6]

Case Report

A 70 years old non-diabetic woman presented to the Gynaecology and Obstetric OPD of Govt Medical College, Patiala with pain in the abdomen along with features of hyperthyroidism like loss of body weight and palpitations for the last one month. Blood pressure of the patient was 170/90

mm of Hg. On Local Examination a tense cystic mass was felt per abdominally on right side extending up to pelvis. Its lower border could not be reached.

Pre Operative Investigations: Thyroid profile-T3 levels were 200 ng/dl, T4 levels were 13 g/dl and TSH levels were 0.03 mIU/ml.

Ultrasonographic report revealed a cystic mass arising from right uterine adnexa with a small hyperechoeic nodule within the wall of the cystic and a linear echogenic thick septa measuring greater than 5 mm. CT scan revealed a large well defined unilocular cyst measuring 14.09 x 15.5 cm in right uterine adnexa. She underwent total abdominal bilateral salphingo oophorectomy. All the signs and symptoms disappeared rapidly after surgical removal of tumor. She became euthyroid after a month of treatment with anti thyroid drugs. Six months of follow-up showed no recurrence.

Pathologic Findings

Gross: In the first container labelled as right ovarian cyst, there was a large, cystic, greyish white soft tissue piece which was greyish brown at places along with fallopian tube. Part of the wall of cyst was papery thin and a part was thickened. Another small cyst measuring 1 cm in diameter was identified. On cutting, greyish brown material came out. In the second container labelled as left ovary, there was a greyish white soft tissue piece with a tubular structure.

Fig. 1 Gross features of the right ovary shows cyst and smooth surface

Fig. 2 Cut section of the right ovary thyroid tissue separated by thick fibrous septae

Microscopy: Several pieces and multiple H & E stained paraffin sections were examined. Serial sections from right ovary revealed cystic wall lined by flattened epithelium. Small cyst contained mature thyroid tissue consisting of follicles of various sizes lined by a single layer of columnar or flattened epithelium containing colloid. Histopathological features were those of Struma Ovarii (Monodermal, Highly specialized Teratoma). Sections from left ovary showed serous cyst.

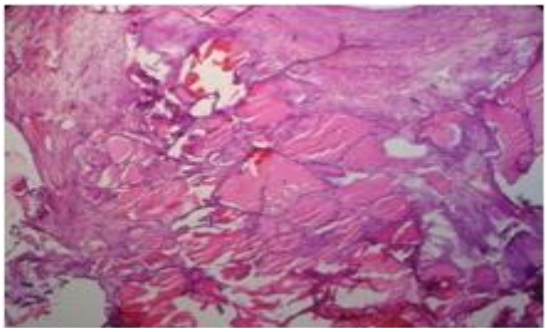

Fig. 3 Low magnification microphotograph of ovary shows thyroid follicles and ovarian stroma (H&E stain)

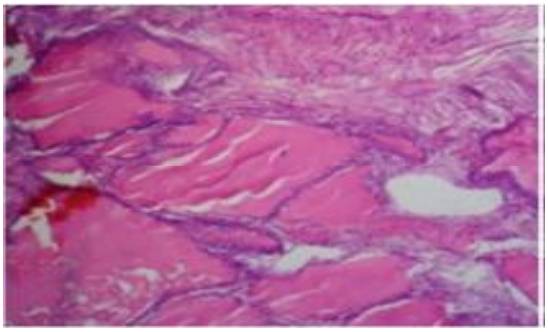

Fig. 4 High magnification microphotograph of ovary shows thyroid follicles and ovarian stroma (H&E stain)

Discussion

Struma ovarii is a rare tumor with age distribution generally same as that of mature cystic teratoma, ranging from 6 to 74 years. Most patients are in reproductive age group [7] but our patient was 70 years old. Clinically, most cases are silent or present with nonspecific symptoms. [8] Most of the patients had the usual symptoms and signs of an adnexal mass. [9] When symptoms were present, the majorities were non-specific, consisting of lower abdominal pain, palpable lower abdominal mass, and abnormal vaginal bleeding. Occasionally, if the tumor secretes significant thyroid hormone, symptoms and physical findings of hyperthyroidism are present [8] which were present in our case. The incidence of such thyroid hyperfunction has been reported to be 5-8% of patients with struma ovarii. [10] Struma ovarii is usually unilateral but is often associated with mature cystic teratoma and rarely with cystadenoma in contralateral ovary. [7] Microscopically the tumor is composed of mature thyroid tissue consisting of acini of various sizes lined by single layer of columnar or flattened epithelium. The acini contain eosinophilic, PAS positive colloid.The thyroid tissue, which has a microscopically unremarkable appearance, is sharply delimited from the ovarian stroma. [6] Most cases are benign [8] and malignant change is uncommon which often shows a follicular pattern; but papillary carcinoma is not infrequent. [7] The criteria for malignancy include cellular atypia and increased hyperplasia, nuclear pleomorphism, mitotic activity, and vascular and/or capsular invasion. [11] Development of malignancy along with ascitis or ascitis with pleural effusion produces pseudo-Meigs' syndrome. [12] Ascitis is present in 17% cases but its presence does not indicate that the tumor is malignant. [13]

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