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CASE REPORT

Benign Struma Ovarii, Rare Ovarian Tumor – A Case Report and Review of Literature

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Abstract

Background: Struma ovarii is a monodermalteratoma which contains thyroid tissue. It is a rare ovarian neoplasm, mostly having benign nature. Clinical as well as radiological feature are not specific and diagnosis of this is based on histopathological examination. Cystic strumaovarii is very rare.We present a case of strumaovarii arising from right ovary in a 52 year old female patient presented with abdominal discomfort and pain in abdomen. The tumor was cystic in nature which is again a rare occurrence.Cystic strumaovarii is a rare diagnosis, a good histopathological diagnosis is needed.

Key Words

Struma Ovarii, Teratoma, Cystic, Thyroid Tissue

Introduction

Struma ovarii is a rare type of ovarian teratoma which is characterized by more than 50% component as thyroid tissue. It belongs to the category of monodermal/ specializedteratoma[1]. Struma ovarii accounts for 0.5 to 1% of all ovarian tumors and 2 to 5% of teratomasofovary[2]. These tumors are mostly benign in nature. Only 5 to 10% of cases turn into malignancy[1].

This tumor was first described by Boetthin as a highly specialized tumor in 1889. Plaut confirmed that follicular cells of strumaovarii are morphologically as well as biochemically similar to follicular cells of thyroid tissue[3].

We report a case of strumaovarii in 52 year old female patient to highlight the rarity of tumor and its associated histopathological features.

Case Report

A 52 yr old female patient presented with pain associated with a abdominal discomfort at right abdomen since 2 months. Physical examination revealed mild abdominal distension, with no signs of ascites. The serum level of CA125 was slightly increased that is 11.8 IU/ml. (reference value is < 35 IU/ml) CBC and routine investigation were normal. Symptoms of hyperthyroidism were not revealed. CECT abdomen and pelvis showed a large thick walled cystic lesion with a small solid eccentric area in right adnexa measuring 13.4 x 11.5 x 9 cm, left ovary and uterus appeared normal. The clinical impression was right mucinous cystadenoma. Total hysterectomy with bilateral salphingo-oopherectomy with biopsy of peritoneum and omentum was done and specimen was sent for histopathological examination. Gross examination reveals right ovarian cyst measure.

16 x 11 x 10 cm and weighted 750 gms. External surface was smooth, encapsulated. Cut section revealed uniloculated cyst with yellowish brown coloured viscid fluid. At one site the cyst showed brown gelatinous area of size 4 x 3 cm (Fig. 1, 2). Microscopic examination of cyst revealed thick walled cyst with entrapped thyroid follicles lined by cuboidal follicular cells with round regular nuclei with no atypia. The lumen of follicles showed colloid material (Fig 3). Similar histology was seen from the grey brown areas. The entire ovarian cyst was composed of only thyroid tissue and no other components. Considering these features the cyst wall diagnosed as strumaovarii from right ovarian cyst.

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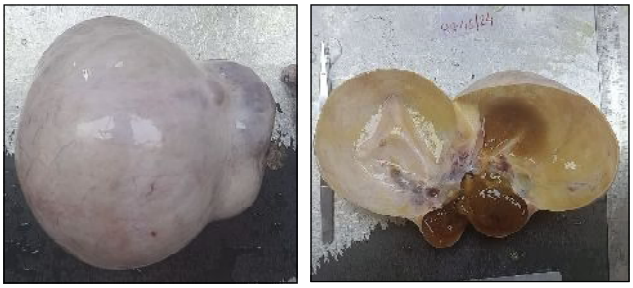

Fig 1, 2 : Gross examination - Ovarian cyst with smooth capsule, cut section showing uniloculated cyst with grey brown area at one pole.

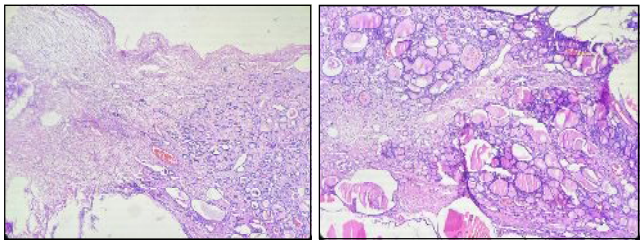

Fig. 3, 4 : microscopy – A cyst wall showing thyroid follicles of varying size with colloid material in the lumen (40 x and 100 x H&E)

Discussion

Strumaovarii is mostly benign. The commonest age group is 40 to 60 years. 5–8% cases present with hyperthyroidism. Cystic strumaovarii is very rare which was seen in our case[1,2,4]. Cystic strumaovarii mostly results in confusion with cystic ovarian tumors. In our case similar observation was noted and the tumor was diagnosed as cystadenoma. Most of these are multiloculated cysts and 10% are uniloculated[5]. In our case the cyst was uniloculated. Struma ovarii are asymptomatic in many cases. When size is larger they present with pelvic mass, abdomen discomfort, pain and less frequently irregular menses and ascites[3]. 5 – 8% of cases present with hyperthyroidism which is uncommon[6]. The tumor presents as pure form or mixed form associated with other malignant tumors like mucinous cyst adenocarcinoma, brennertumor, carcinoid tumor[7]. In our case the tumor was in entirely composed of thyroid tissue. Ascites is seen in 17% of strumaovarii cases and its presence does not indicate malignant nature of the tumor[8]. Papillary thyroid carcinoma can occur in about 1/3rd of cases of strumaovarii and thyroid dysfunction can be seen in 5 – 8% of cases[9]. The differential diagnosis includes hyperthyroidism, ovarian cyst, endometriomaorpelvic inflammatory disease CA125 marker may show slight elevation but the change is not specifically diagnostic for the tumor[10]. Histological assessment reveals thyroid tissue as >50% component of the tumor. The imaging modalities are not specific and donot help in definitive diagnosis. Histopathological examination of excised tumor gives confirmatory diagnosis. Surgical resection is the main primary treatment when the tumor is benign in nature i.e. unilateral oophorectomy. For malignant strumaovariithere is no standard consensus for tumor. Many author agree that it should be managed as thyroid cancer i.e resection of ovarian cyst along with thyroidectomy and 131 Iradio ablation.

Conclusion

Strumaovarii is a rare specialized type of teratoma. Radiological examination is not helpful for diagnosis. Histopathological examination of the excised tumor helps to arrive at definitive diagnosis.

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References

1. Tîrnovanu MC, Tîrnovanu VG, Toma BF, Cojocaru E, Ungureanu C, Barbăros C, et al. Struma Ovarii: Clinico-Morphological Features and Therapeutic Experience of a Romanian Institution over 20 Years Appl Sci 2021;11(20):9427
2. Kondi-Pafiti A, Mayrigiannaki P, ChGrigoriadis, K Kontogianni Katsarou, A Mellou et al. Monodermalteratomas (strumaovarii). Clinicopathological characteristics of 11 cases and literature review. Eur J Gynaecol Oncol 2011; 32:657.
3. Karuna, V Gupta, P Verma, Nidhisaroj, Amod Kumar. Uncommon tumor with rare variants: cystic strumaovarii – a case report with review of literature. Med J of Dr DY Patil Vidyapeeth 2019; 12(6):516.
4. Vadmal MS, Smilari TF, Lovecchio JL, Klein IL, Hajdu SI. Diagnosis and treatment of disseminated strumaovarii with malignant transformation. Gynecol Oncol 1997; 64: 541-6.
5. Hemalatha AL, Abilash SC, Girish M. Cystic strumaovarii – a pathological rarity and diagnostic enigma. Arch CytolHistopathol Res 2017; 2:12-14.
6. Kraemer B, Grischke EM, Staebler A, Hirides P, Rothmund R Laparoscopic excision of malignant strumaovarii and 1 year follow-up without further treatment. Fertil Steril 2011; 95(6):2124.e9.
7. Makani S, Kim W, Gaba AR. Struma ovarii with a focus of papillary thyroid cancer: a case report and review of the literature. Gynecol Oncol 2004; 94:835-9.
8. Smith FG. Pathology and physiology of strumaovarii. Arch Sur. 1946; 53(6):603-26.
9. L.P. Ang, A.M. Avram, R.W. Lieberman, N.H. Esfandiari, Struma ovarii with hyperthyroidism Clin Nucl Med 2017; 42(6): 475-7.
10. G. Lamblin, C. Gallice, C. Bournaud, B. Nadaud, K. Lebail-Carval, G. Chene, Benign Struma ovarii: report of 7 cases and review of the literature Gynecol. Obstet Fertil 2016; 44(5):263-8.