American Journal of Medical Case Reports, 2016, Vol. 4, No. 8, 272-274
Available online at http://pubs.sciepub.com/ajmcr/4/8/6

DOI:10.12691/ajmcr-4-8-6

Case Report of a Struma Ovarii

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Abstract Struma ovarii is the presence of thyroid tissue as a major cellular component in an ovarian teratoma and it is usually benign but malignant changes has been reported in 3%–5% of all Struma ovarii tumors [1,2]. The symptoms of Struma ovarii are similar to those of other ovarian tumors and are nonspecific in nature. The tumor can be characterized by imaging, but the final diagnosis is made by pathological and histological examination. Surgical resection remains the definitive treatment for benign disease. Our case is 47 -year-old old multiparous woman, who presented with a palpable pelvic mass and symptoms of pelvic discomfort and vague abdominal pain. The pelvic ultrasound showed a large complex ovarian mass with cystic and solid component with no suspicion of malignancy. She underwent a total abdominal hysterectomy and bilateral salpingo-oophorectomy. Histology showed Struma ovarii. Post operatively the patient did very well with no complications and TFT was normal.

Keywords: *Teratoma, struma ovari, thyroid, benign*

Cite This Article: Arjowan Mustafa, Lina Azzam, and Hussam M. Azzam, "Case Report of a Struma Ovarii." *American Journal of Medical Case Reports*, vol. 4, no. 8 (2016): 272-274. doi: 10.12691/ajmcr-4-8-6.

1. Introduction

Struma Ovarii is a rare ovarian tumor belongs to class of monodermal and highly specialized teratoma. Histologically struma ovarii usually composed of benign thyroid tissues, but rarely it may contain thyroid carcinoma as malignant transformation has been reported in 5-10% [2].

Most cases of Struma ovarii are benign and usually unilateral and more commonly seen in the right ovary and usually less than 10 cm but it can vary in size between 4-25 cm.

Though the first case was described by Von Kalden in 1895 [1], Struma Ovarii is still extremely rare in clinical practice as it constitutes 1% of all ovarian tumors. [10]

Although about 15% of ovarian teratoma contains some thyroid tissue but they are not called as Struma ovarii unless the amount of thyroid tissue constitutes more than 50% of the tumor cells.

The most common presentation is abdominal pain or pelvic mass, rarely with symptoms of thyroid hyper activity.

The simple presence of thyroid tissue with coexistence and predominance of other cell types does not confirm the diagnosis of Struma ovarii [1].

Typically, Struma ovarii occurs as a part of benign cystic teratomas, but may occasionally be encountered with other ovarian tumors, either germinal as dermoid cysts and carcinoid tumors or non-germinal as serous or mucinous cystadenomas and Brenner tumors [8,9].

The age incidence is usually between ages of 30-50 years, but cases have been reported in wide range of age distribution between 6-74 years old. [1]

The tumor symptoms are similar to those of other ovarian tumors which are usually nonspecific in nature.

The most common presentation is pelvic discomfort, abdominal pain and distension and that is why the preoperative diagnosis is very difficult because of the rarity of the disease as well because the available diagnostic imaging techniques (Ultrasound, Computerized Tomography (CT) and Magnetic Resonance imaging (MRI) are all nonspecific and usually they show a complex pelvic mass and usually the differential diagnosis will be either dermoid cyst, benign or malignant cystadenoma.

Struma Ovarii could be hormonally active and manifest clinical symptoms of thyroid hyperactivity or thyrotoxicosis but the majority are inactive.

Although the tumor contains large amount of thyroid tissue but symptoms of clinical thyrotoxicosis happens only in 5-10% of cases when it would be possible to diagnose it before surgical intervention and usually those symptoms resolve after surgical removal of the tumor. [1,2]

The only preoperative method to diagnose it is the use of scintigraphy Iodine 131 which can show active thyroid tissue in the pelvis. [1,2]

There is no consensus of the method of choice for treating Struma ovarii because of its rarity but it usually surgical.

Simple unilateral salpingo oophorectomy is the most common method used for majority of cases since most of them are benign and unilateral.

Although the definitive treatment depends on the extent of the disease and future child bearing wishes of the woman and her age.

Total abdominal hysterectomy and bilateral salpingo oophorectomy is recommended for patients with bilateral disease and in postmenopausal women. [7]

If there is malignant transformation then the treatment would be Total abdominal hysterectomy and bilateral salpingo oophorectomy with total thyroidectomy and

adjuvant ablation as there is evidence that malignant Struma ovarii behaves as its thyroid counter parts [3].

2. Our Case

A 47 years old multiparous woman who had previous 4 normal vaginal deliveries with no previous medical or surgical history, presented with a large pelvic mass which was symptomatic for abdominal pain and discomfort , clinical examination showed that there was a pelvic mass which extends to 4 cm above the umbilicus not tender , no ascites.

The pelvic ultrasound showed a complex pelvic mass on the left adnexa of 20x12 cm in dimensions with no ascites or aggressive features. The patient was sent for tumor markers (CA125, Carcino Embryonic Antigen and Alfa Feto Protein) and all were unremarkable.

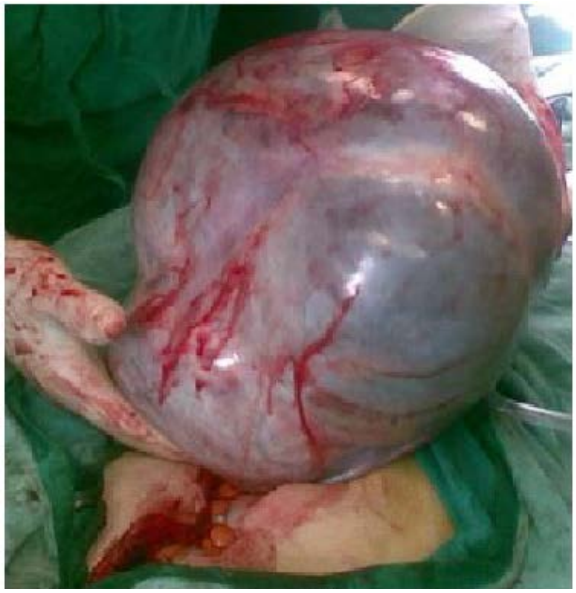

Figure 1.

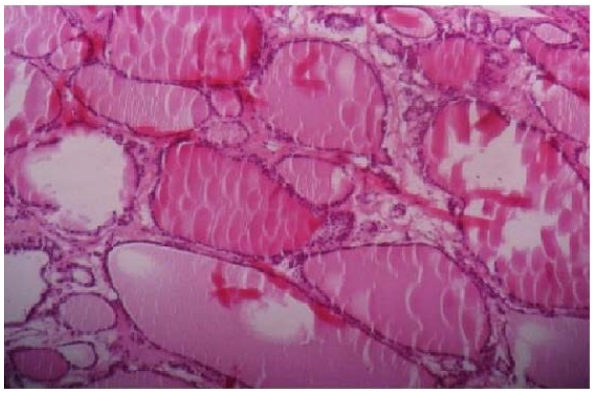

Figure 2.

The patient underwent exploratory laparotomy

During the intraoperative exploration of the abdominal cavity, there was a multicystic complex mass of 20x12x8 cm in dimensions on the left adnexa, there was no omental adhesion no ascites, the tumor was mainly solid and partly cystic filled with a yellow grayish gelatinous material.

We did a total abdominal hysterectomy with bilateral salpingo opherectomy with removal of the left sided adnexal mass.

The histopathology result came back showing an unexpected Struma ovarii.

On following up the patient after receiving the histopathology result, she denied any symptoms of thyroid hyper activity and the thyroid function test was done and it was within normal limits.

The patient was discharged from the clinic after 2 unremarkable visits.

3. Discussion

Struma ovarii is a rare tumor of the ovary which is composed by mature thyroid tissue growing within ovarian teratomas. [1,3]

Although approximately 15 % of ovarian teratomas contain a small, non-significant focus of thyroid tissue, only 3%-5% is characterized by the presence of thyroid tissue occupying most of the mass. [4,5,13]

Its incidence varies in different studies. A Japanese study of Higuchi et al, published in 1960, reports 3 cases among 1000 solid ovarian tumors (0.3%). In a recent review of 282 ovarian tumors, 2 cases of Struma ovarii have been reported (0.7%). [5]

In our institute she was the only case after reviewing the data of ovarian masses removed over the last 10 years (of 105 in totals).

The tumor usually presents as a pelvic mass, which may be palpable on physical examination, depending on size and location. [11,13]

Most cases are incidentally found during clinical and imaging examination or laparotomy, as in our case that was diagnosed only after the histopathology result as preoperative diagnosis of Struma ovarii is rarely reported because of non-specificity of the imaging technique used in clinical practice and the only method for preoperative diagnosis is by scintigraphy with iodine (131) which could show active thyroid tissue in a small pelvis. [1]

In addition to symptoms and signs caused by the presence of a pelvic mass, Struma ovarii may be associated with a number of unusual clinical manifestations related to thyroid hormone excess if it is of the active type (thyroid secreting).

If there is thyroid hormone hyper activity then this would be due to autoimmune stimulation of the thyroid gland. [2]

Because of its rarity, there is no consensus on Struma ovarii‘s best management and each case must be managed individually. [7]

Although most cases of Struma ovarii are benign, still malignant changes in Struma ovarii can be seen but they are uncommon as only 5-10% of Struma ovary may show malignant transformation [7].

There is still no guideline or consensus for the optimal treatment for Struma ovarii. Based on a literature review, the optimal management should consider factors including the patient’s age, preservation of fertility, histologic malignancy, tumor size and peritoneal strumosis or metastasis [3,4].

Usually unilateral adnexectomy is recommended for unilateral disease in women of reproductive age while total abdominal hysterectomy and bilateral salpingo oophorectomy is recommended for patients with bilateral disease and in postmenopausal women.

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