

# GIANT STRUMA OVARIİ MIMICKING ADVANCED STAGE EPITHELIAL OVARIAN CARCINOMA AND LITERATURE REVIEW

Dr. Tevfik Berk Bildacı, Dr. Burcu K. Kısa, Dr. Esra Çabuk, Dr. Polat Dursun, Dr. Ali Ayhan

## ÖZET

**Giriş:** Struma ovarii overlerden kaynaklanan ve genellikle semptom vermeden rastlantısal cerrahi operasyonlar sırasında, yüksek tiroglobulin seviyeleri ile gözlenen monodermal bir neoplazidir. Bu vaka sunumundaki amacımız yüksek ca125 seviyesi ve asit ile birliktelik gösteren dev bir pelvik kitleyi sunarken, ca125, asit ve struma ovarii birlikteliği ile ilgili geçmiş verileri derlemektir.

**Vaka Sunumu:** Karın ağrısı ve şişliği ile kliniğe başvuran 52 yaşındaki bayan hastada yüksek ca125 seviyesi (1424) ve eşlik eden 22x17cm boyutlarında pelvik kitle saptanmıştır. Boyutu ve kitlenin görünüşü itibarı ile hastaya sitoredüksiyon uygulanmıştır. Patoloji raporu struma ovarii olarak gelen hastanın takibinde asiti çözülmüş ve ca125 seviyeleri normal aralığa inmiştir.

**Tartışma:** Ca125 yüksekliği, kitlenin boyutu ve asit gibi bazı semptomlar hekimi malign bir hastalığa yönlendiriyor olsa da, bazen benign bir hastalık ile ilgili olabilecekleri ihtimali bulunmaktadır. Struma ovarii ve Ca125 yüksekliği birlikteliği çok nadir olarak rapor edilen bir olgudur. İngiliz literatüründe yapılan araştırmaya göre 1990 yılından bu yana yayınlanan 10 vakadan birisi bu vakadır.

**Anahtar Kelimeler:** Asit, Over karsinomu, Ca125, Struma ovarii

## ABSTRACT

**Background:** Struma ovarii is a monodermal tumor originating from the ovaries. Usually it is found with elevated tyroglobulin levels and without any clinical symptoms coincidentally aftersurgical resection.

**Objective:** To present a patient with giant pelvic mass accompanying elevated ca125 levels and ascites, collect the data related with ca125, ascites and struma ovarii cooccurrence.

**Case Report:** A 52 year old woman complaining with abdominal distension and pain with an elevated ca125 level of 1424 and an accompanying giant mass 22x17cm came to our clinic. Because of size and appearance, she underwent a complete surgical cytoreduction. The pathology report was struma ovarii. On follow up her ascites resolved and her ca125 levels turned back to normal ranges

**Conclusions:** Although some symptoms can be thought as they barely represents a malignant disease, it is possible that those can be related with a benign disorder such as struma ovarii. It is known that combination of struma ovarii and elevated CA-125 has rarely been reported. This is one of ten cases published in the English literature from 1990 so far.

**Key Words:** Ascites, Epithelial ovarian carcinoma, Elevated ca125, Struma ovarii

## INTRODUCTION

Struma ovarii is composed entirely or predominantly of thyroid tissue and generally a benign germ cell tumor of the ovary. Thyroid gland related colloidal tissue have to be recognized for about 50 percent of the overall tissue or over. Most of the

patients with struma ovarii had asymptomatic mass, and diagnosis is usually made postoperatively by histopathological examination. Even massive ascites and elevated ca125 levels can be major findings for diagnosing malignancy especially for epithelial ovarian carcinoma, it can be vice versa. Through the English literature combination of struma ovarii,

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Baskent University Hospital OB/GYN Department Bahcelievler/ANKARA

İletişim: Dr. Tevfik Berk Bildacı

Adress: Baskent University Hospital OB/GYN department Bahcelievler/Ankara TURKEY

Tel: +90 532 509 0218

e-mail: berkbildaci@gmail.com

elevated ca125 and massive ascites has rarely been reported. We are reporting a 52 years-old postmenopausal woman with benign struma ovarii presented with massive ascites, a complex pelvic mass and extremely elevated CA-125.

## CASE HISTORY

52 year old gravida 2 para 2 patient presented to our clinic with abdominal distension and pain. Her overall performance was well Her CT scan showed bilateral multilobular ovarian cystic masses which 11 cm and 8 cm on left and right ovary respectively and massive ascites. No lymphadenopathy was noticed on paraaortic and pelvic lymph nodes. Her preoperative evaluation continued with upper GI and lower GI endoscopy. They all turned out to be normal. Her PAP smear test was normal. Her initial tumor markers were as follows. Ca125: 1424 IU/ml, Ca15-3: 35.87 IU/ml, Ca19-9: 2.93 IU/ml, AFP:3.61 IU/ml, CEA:1.65 NG/ml

Patient was subjected to FIGO staging procedure. Three and a half liters of ascites had been collected. During operation left ovarian multilobulated cystic mass was noticed and right ovary was tumor free instead of what was seen on CAT scan. There was no palpable lymph nodes and no other abdominal structures was infiltrated by any kind of tumor. The specimen containing cystic mass, uterus, bilateral adnexial structures and bilateral pelvic and paraaortic lymphnodes was sent to pathology department.

The final histologic report was turned out to be a struma ovarii. The size of the tumor was measured 22x17 cm in dimension. No nodal or any other site involvement was found. Patient was discharged from hospital on the fifth day with full recovery. Her ca125 levels were within normal range. The management strategy for this tumor was chosen as close follow ups.

## DISCUSSION

Struma ovarii was first described in 1899 by Boettlin(1). Its pathogenesis remains controversial. Struma ovarii is defined by the presence of thyroid tissue in more than 50%of the tumor(2). Figure 2 is showing the hystological apperance of the material removed.

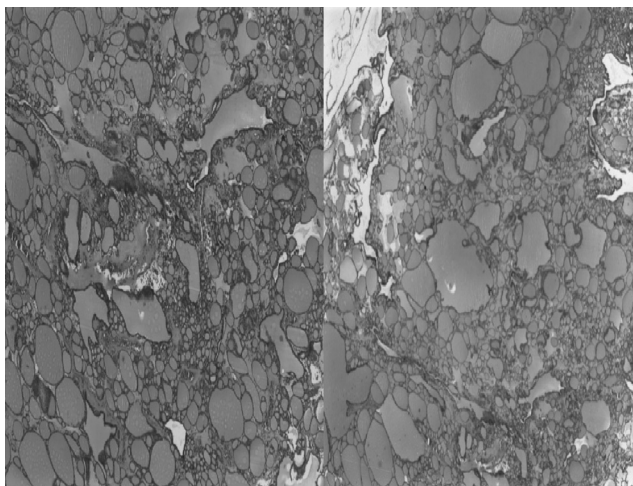
Struma ovarii is a rare form of ovarian neoplasm, generally a benign germ cell tumor of the ovary.

Despite of usually being benign, 5-10%of these tumors are found to be malignant which contains invasive components usually papillary type thyroid carcinoma (3,15,16). It may occur at any age, but the peak frequence is in the fifth and sixth decades of life. Rates of benign and malignant struma ovarii among teratomas are 2 and 0.3%, respectively (4). In our study, hystopathologic examination revealed struma ovary without any suspicion of invasive process.

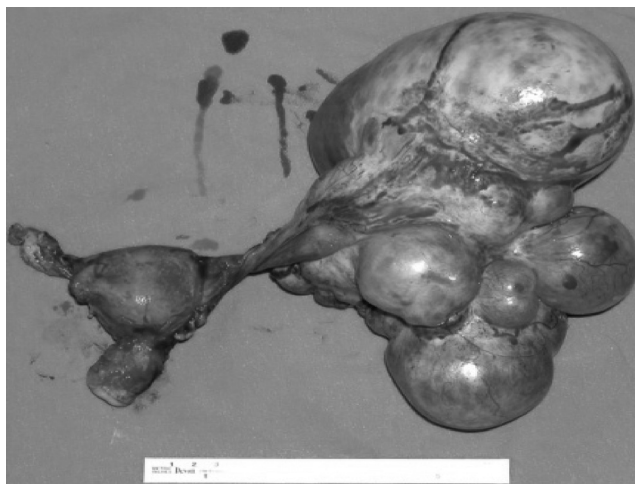
The mean size of tumors reported on the literature is 11.4cm in diameter (5). This tumor is one of the biggest sized struma ovarii ever been reported. The size and the lobularity can easily lead someone to a misdiagnosis as malignant ovarian cancer as it is shown in Figure 1.

Patients may be presented with hyperthyroidism symptoms if the tumor has an active secretion of thyroid hormones, but only 5-8%of patients with struma ovarii present with clinical hyperthyroidism(6,7). Our case had normal tyroid function test with only elevated tyroglobulin levels.

Ascites have been reported in approximately 15-20%of all cases.(8) Szyfelbein et al reported ascites in their 3 out of 30 cases (9). Seung-Chul et al 4 cases with elevated ca125 levels on their series with 25 patients (10). Takemori et al reported a patient with triple elevated tumor markers CEA, ca125 and ca19-9 leveling as high as 202 ng/ml, 710 IU/ml, 11,500 U/ml respectively (11).



**Figure 1**–Hystologic view of colloidal pattern of the tumor. This pattern covers more than 50 percent even nearly 75 percent of the whole tissue.



**Figure 2**—Total abdominal hysterectomy and bilateral salphingoferectomy specimen just after resection

Another presentation type of struma ovarii is benign characterized pelvic mass with ascites and accompanying pleural effusion so called as pseudo-Meig's Syndrome with elevated ca125 levels and only 8 cases have been reported so far (12). 9 other cases have been reported to be with ascites, elevated ca125 levels and struma ovarii altogether without pleural effusion until 2009(13). This is the tenth case through

the English literature until April 2010. Table 1 is describing other patients having combination of struma ovarii, ascites and elevated ca125 levels. The mean age of patients' is 58 with major presenting symptom as abdominal distension and pain. Mean ca125 level is 2124 IU/ml (range 224-5218 IU/ml)

We couldn't understand whether the pleural effusion is or can be a component of this pathology or not. One of the possibilities is the operation taking place before the pleural effusion has a chance to occur.

We want to make a point at pelvic masses and their ability to easily mimic malign diseases. For these kind of situations, Li HJ et al suggests using diagnostic laparoscopy at fist, if we have any doubt in mass being benign (14). Summary struma ovarii should be included in the differential diagnosis of a pelvic mass that presents with ascites, and elevated tumor markers especially ca125.

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**Table 1**—I Review of Struma Ovarii Patients With Elevated Ca125 and Ascites

| Author             | Year | # Patients | Age      | Presenting symptom                   | Tumor size     | Ca 125 level (IU/ml) |
|--------------------|------|------------|----------|--------------------------------------|----------------|----------------------|
| Jotkowitz and Gee  | 1993 | 1          | 79       | Abdominal swelling                   | Not reported   | 4670                 |
| Leung and Hammond  | 1993 | 2          | 60<br>77 | Non spesific symptoms<br>Pelvic mass | 10cm<br>8x10cm | 224<br>2860          |
| Mancuso et al      | 2001 | 1          | 31       | Lower abdominal pain                 | 10x9 cm        | 689                  |
| Loizzi et al       | 2002 | 1          | 83       | Abdominal pain                       | 10x7x6,5 cm    | 1570                 |
| Bokhari et al      | 2003 | 1          | 51       | Abdominal distension                 | 15x6,5x11 cm   | 1160                 |
| Rim et al          | 2005 | 1          | 50       | Abdominal distension                 | 4x4 cm         | 878                  |
| Guida et al        | 2005 | 1          | 42       | Abdominal distension                 | 9,1x7,7 cm     | 2548                 |
| Mabel po mui et al | 2008 | 1          | 56       | Abdominal distension                 | 6x5x4 cm       | 5218                 |
| Present report     | 2010 | 1          | 52       | Abdominal distension and pain        | 22x17 cm       | 1424                 |

\*This table has been taken and updated from refferance no:4

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