

Struma Ovarii, A Rare Form of Ovarian Tumor: Clinical Analysis of 6 Cases

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OBJECTIVE: In this study, the analysis of clinical, epidemiological and biological features of 6 patients who had the diagnosis of struma ovarii postoperatively was presented.

STUDY DESIGN: This study consists of 6 patients who admitted to Selcuk University, Faculty of Meram Medicine, Department of Obstetrics and Gynecology with several complaints and who were operated for pelvic mass and diagnosed as struma ovarii postoperatively.

RESULTS: The mean age of patients was 52.5±8.38 years (41-63). 4 patients (66.7%) admitted with pelvic and abdominal pain. All patients had unilateral form of struma ovarii. Thyroid function tests and CA 125 levels were detected to be normal in examined patients. 2 patients did not have preoperative thyroid function tests. None of these patients had symptoms of thyrotoxicosis. Regarding surgical procedures, 1 patients (16.7%) had ovarian cystectomy, and 5 patients (83.3%) had total abdominal hysterectomy together with bilateral salpingooferection.

CONCLUSION: Struma ovarii is a medical rarity and preoperative diagnosis is generally impossible. The diagnosis was confirmed only by pathologic findings. Clinicians should be aware of this diagnosis and include it in the differential diagnosis when a patient presents with signs and symptoms of ovarian malignancy.

Key Words: Pelvic mass, Struma ovarii, Management

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Introduction

Struma ovarii, a rare monodermal variant of ovarian teratomas; composes 0.3-1% of all ovarian tumors; 3% of all ovarian teratomas, and 2% of all germ cell tumors of the ovary.^{1,2,3} Pathological diagnosis is established by the detection of more than 50% thyroid tissue. Most frequently is seen in 5th decade.^{1,4}

Struma ovarii is usually benign; besides 5-10% is malignant. Generally is unilateral and ranges between very small sizes up to 10 cm diameter. Struma ovarii usually presents with asymptomatic pelvic mass, but also may present with

pelvic pain and abdominal pain. Hyperthyroidism can be detected in 5-8% of patients.⁴ Ascites is detected in 15-20% of patients, but elevated CA-125 levels are rare.² Most of struma ovarii cases are diagnosed postoperatively and surgical excision is appropriate for treatment.⁵

In our study, we objected to evaluate clinical, epidemiological and biological features of 6 struma ovarii cases retrospectively.

Material and Method

This study consists of 6 patients who admitted to Selcuk University, Faculty of Meram Medicine, Department of Obstetrics and Gynecology with several complaints and who were operated for pelvic mass and diagnosed as struma ovarii postoperatively. Patients' information was collected from hospital file records. The ages of patients, menopausal status, complaints at admission, thyroid function tests (TSH, free T3, free T4), size of cysts, the origin of the cyst (from right or left ovary), coexisting ascites, CA-125 levels and coexisting pathological findings were all recorded and analyzed. Menopause was established by the cessation of menses for at

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least 1 year duration. Postoperatively the largest macroscopic cyst dimension was measured. The presence of ascites was defined as the presence of intraoperative ascites or according to ultrasonographic findings. The diagnosis of struma ovarii was confirmed by the detection of more than 50% thyroid tissue.

Data were analysed by SPSS 16.0. Definitive statistics were used and results were calculated numerically or as percentages.

Results

The mean age of 6 patients with pathological diagnosis of struma ovarii was 52.5±8.38 years (41-63). 4 patients (66.7%) admitted with the complaint of abdominal pain. One patient presented with dysmenorrhea and another one with pelvic mass. 3 patients (50%) were in postmenopausal period. No patient had ascites. All patients had unilateral struma ovarii, in 4 patients (66.7%) originating from right ovary, and in 2 patients (33.3%) from left ovary. The mean size of the cyst was 7.83±1.94 cm. Thyroid function tests and CA-125 levels were all normal in studied patients. 2 patients did not have preoperative thyroid hormone function tests. None of the patients had symptoms of thyrotoxicosis. As surgical treatment, in 1 patients (16.7%) ovarian cyst extirpation with preserving ovary and in 5 patients (83.3%) total abdominal hysterectomy together with bilateral salpingooforectomy was performed. All these are shown in Table 1. In 2 patients there were coexisting myoma uteri.

Discussion

Germ cell tumor composes 15-20% of all ovarian tumors. Struma ovarii is special germ cell tumor and is first described by Boettlin in 1899.⁶ It also composes 03-1% of all ovarian tumors, 3% of all ovarian teratomas and 2% of all ovarian germ cell tumors.^{1,2,3}

Although ovarian teratomas are generally detected in early ages, struma ovarii usually appears after 40 years of age and peaks in 5th and 6th decades.^{7,8} Tumor usually presents with

asymptomatic pelvic mass and exact diagnosis is confirmed histopathologically after resection.^{1,2,9} Ascites is detected in 1/3 of cases and in 10% of cases, the tumor was bilateral. (14). 5-8% of cases have symptoms and signs of thyrotoxicosis. Most of malign struma ovarii cases are observed to present hyperthyroidism. In a small number of cases, hypothyroidism is detected postoperatively.¹⁰

Struma ovarii is usually unilateral, and sometimes mature cystic teratoma may coexist in the same or opposite ovary. Although is rare, coexistence of ovarian cystadenoma or Brenner tumor can be detected in the same ovary. Struma ovarii is mostly solid or solid- cystic tumor.³ Tumor sizes are usually large, but do not exceed 10 cm size. Treatment can be performed usually without excision of the affected ovary.² The excision of the tumor is usually appropriate for surgical treatment in benign cases.³

5-10% of all struma ovarii cases is malignant and frequently is of follicular type. In malign forms of struma ovarii, metastasis is rare and stands for 5% of cases.¹ In malignant cases, surgical treatment consists of total abdominal hysterectomy together with bilateral salpingooforectomy and omentectomy, if further fertility is desired; surgery is restricted to unilateral oophorectomy or cystectomy.¹

The prognosis of benign struma ovarii and non-metastatic malign struma ovarii cases is good after treatment. But metastatic malign forms have poor prognosis.³

Alfie Chen et al. in their study consisting of 8 cases, reported the incidence of struma ovarii as 4% of all ovarian tumors and the mean age as 45.5 years.¹² Presenting symptoms were reported as abdominal pain or distension accompanied by pelvic mass and none of the patients were reported to have symptoms of hyperthyroidism. 4 patients were reported to have cysts originating from right ovary and the other 4 patients from left ovary and all were unilateral.

Devaney et al. in their study consisting of 41 benign and 13 malignant clinicopathologically investigated struma ovarii cases, reported median age as 44; the presenting symptom was

Table 1: The clinical characteristics of the cases

Case	Age (year)	Complaint at Admission	Ovarian Origin	Size (cm)	Menopause	Operation	CA 125	Thyroid Function Test	Ascites
1	41	Abdominal Pain	Left	6x5x4	Absent	Cystectomy	Normal	Absent	Absent
2	47	Abdominal Mass	Left	9x7x5	Absent	TAH-BSO	Normal	Normal	Absent
3	50	Dysmenorrhea	Right	8x7x5	Absent	TAH-BSO	Normal	Absent	Absent
4	61	Abdominal Pain	Left	9.5x6.5x6.5	Present	TAH-BSO	Normal	Normal	Absent
5	63	Abdominal Pain	Right	5x3x2	Present	TAH-BSO	Normal	Normal	Absent
6	53	Abdominal Pain	Right	10x10x7	Present	TAH-BSO	Normal	Normal	Absent

TAH-BSO: Total abdominal hysterectomy- Bilateral salpingooforectomy

abdominal mass in 58% cases, 3 patients had symptoms of hyperthyroidism and 1 patient had ascites.¹³

Zalel et al. in their retrospective study, reported that most patients out of 12 cases were in premenopausal status, and the mean size of the lesions was 57.3 mm (30-95). CA-125 levels were reported to be normal and 68,8% of cysts were of right adnexial origin.¹⁴ In our study, the mean age was 52.5±8.38 years (41-63) and this is similar to range at which struma ovarii is usually detected. 4 patients (66.7%) admitted to our clinic with abdominal pain, but in literature most of struma ovarii cases are reported to be asymptomatic. In some cases, preoperative thyroid function tests are evaluated, and all results were normal. None of our patients had symptoms of hypothyroidism postoperatively. In 4 patients (66.7%) cysts were originating from right ovary, and in 2 patients (33.3%) from left ovary and none of the patients had tumor size exceeding 10 cm size and the mean size of the cysts was 7.83±1.94 cm. The preoperative CA-125 levels were normal (< 35 IU/ml). In literature, elevation of CA-125 level in struma ovarii cases are reported as case reports, but not a specific marker for struma ovarii.⁹

Yoo et al. analysed the clinical characteristics of 34 patients with the diagnosis of struma ovarii. Most of the patients were aged between 41-50 years and 20,6% of patients had abdominal pain, 23,5% palpated mass and 41,2% patients were asymptomatic at admission. 4 cases had ascites. As surgical treatment, 55,9% of patients were operated for total abdominal hysterectomy with unilateral/ bilateral salpingooferection, 23,5% patients had unilateral salpingooferection and 20,6% patients had extirpation of struma ovarii. 14,7% of cases are diagnosed as malignant struma ovarii.¹⁵ In our study, patients with further fertility desire, those with coexisting pathologies (myoma uteri) and those in postmenopausal period (83,3%) were operated for total abdominal hysterectomy with bilateral salpingooferection. Cyst extirpation was performed in patients with fertility desire in reproductive age (16,7%).

As a result; struma ovarii with its solid or solid-cystic appearance in ultrasonography together with rarely seen ascites and elevated CA-125 levels can mimic malignant ovarian tumors. Preoperative diagnosis is difficult and in most cases diagnosis is confirmed histopathologically in postoperative period. Most cases are benign and excision of the tumor is a simple curative optimal treatment, and recurrence is not detected.

Struma Ovarii Overin Nadir Gözlenen Tümörü: 6 Olgunun Klinik Analizi

AMAÇ: Bu çalışmada, postoperatif dönemde struma ovarii teşhisi alan 6 hastanın biyolojik, epidemiyolojik ve klinik analizi sunulmuştur.

GEREÇ VE YÖNTEM: Bu çalışmaya Selçuk Üniversitesi

Meram Tıp Fakültesi Kadın Hastalıkları ve Doğum Kliniği'ne çeşitli şikayetlerle başvuran ve pelvik kitle nedeniyle opere olup, postoperatif struma ovarii tanısı konulan 6 hasta dahil edildi.

BULGULAR: Hastaların yaş ortalaması 52,5±8,38 years (41-63) idi. Hastaların 4'ü (%66,7) karın ve kasık ağrısı şikayeti ile bize başvurdu. Tüm hastalarda tek taraflı struma ovarii tespit edildi. Tiroid fonksiyon testleri ve CA-125 seviyeleri bakılan hastalarda normal olarak bulundu. 2 hastada preoperatif dönemde tiroid fonksiyon testi çalışılmamıştı. Hastaların hiçbirinde tirotoksikoz bulgularına rastlanmadı. 1 hastaya (%16,7) ovaryen kistektomi ve 5 hastaya (%83,3) abdominal histerektomi ve bilateral salpingooferektomi uygulandı.

SONUÇ: Struma ovarii nadir görülen bir klinik durumdur ve preoperatif teşhis genellikle imkânsızdır. Teşhis ancak patolojik bulgularla doğrulanır. Klinisyenler over malignansilerinin ayırıcı tanısında struma ovarii teşhisini akılda tutmalıdırlar.

Anahtar Kelimeler: Pelvik kitle, Struma ovarii, Yönetim

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