ZKTB ORIGINAL RESEARCH

Struma Ovarii: 3 Years' Experience of a Tertiary Center

Struma Ovari: 3. Basamak Bir Merkezin 3 Yıllık Deneyimi

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ABSTRACT

Objective: *Struma ovarii accounts 0.5-1% of all ovarian tumors and 2-5% of ovarian teratomas. Struma ovarii cases are usually benign, only 5-10% of cases are malignant and the most common type of malignancy is papillary thyroid carcinoma (70%). The struma ovarii may be seen in all ages but it is generally seen in 5th and 6th decade of life. Although most of the cases are benign, clinical and radiological similarities to malignant masses lead to treatment with laparotomy. In the present study 3 years' experience of a tertiary center's struma ovarii cases were studied.*

Material and Methods: *Patients who underwent surgery for adnexal masses were investigated from archives of the hospital. Among pathology results; 6 patients with struma ovarii were evaluated.*

Results: *Six struma ovarii cases were detected among those cases which approximately account 3.2% of all ovarian mass cases. Half of the cases were postmenopausal and remaining were in reproductive age. The mean size of the mass was 9 cm (max:18min:5 cm). Intraoperative frozen section results were struma ovarii for half of the cases, one was borderline tumor, one was seromucinous cystadenoma and one was mucinous cystadenoma. Permanent pathology results were evaluated, three of them were pure struma ovarii, one was papillary thyroid carcinoma in struma ovarii, one case was strumosis omentum and one case was metastasis of breast cancer to struma ovarii.*

Conclusion: *Although Struma ovarii cases are generally benign in nature malignancy risk and accompanying thyroid diseases should be kept in mind. Some extreme cases like strumosis omentum and metastasis from preexisting malignancies should also be kept in mind during differential diagnosis.*

Keywords: *adnexal mass, teratoma, struma ovari*

ÖZET

Amaç: *Struma ovari tüm over tümörlerinin %0.5-1'ini ve over teratomlarının %2-5'ini oluşturur. Struma ovariler genellikle benin karakterdedir, sadece %5-10 vakada kanser saptanır ve en sık görülen kanser papiller tiroid karsinomudur (%70). Struma ovariler her yaşta görülebilen patolojilerdir ancak genellikle 50-60 yaş aralığında görülürler. Çoğu vaka benin karakterde olsa da klinik ve radyolojik kanseri andıran benzerlikler laparotomi ile tedavi yöntemine neden olabilir. Bu çalışmada üçüncü basamak bir merkezin üç yıllık struma ovari vakaları araştırılmıştır.*

Gereç ve Yöntemler: *Hastane arşivinden adneksiyel kitle nedeniyle ameliyat olmuş hastaların verileri araştırılmıştır. Patoloji sonuçlarından 6 hastada struma ovari tespit edilmiştir. Bu hastaların operasyon öncesi ve sonrası bulguları çalışılmıştır.*

Bulgular: *Tüm over kitleleri içerisinde toplam altı struma ovari (3.2%) vakası tespit edilmiştir. Vakaların yarısı postmenopozal dönemde, diğer yarısı ise üreme çağındadır. Vakaların üç tanesi laparoskopi üç tanesi ise laparotomi yoluyla opere edilmiştir. Kitlelerin ortalama boyutu 9 cm'dir (max:18min:5 cm). Üç vakanın frozen kesiti struma ovari iken, kalanlar; bir borderline tümör, bir müsinöz ve bir seröz kistadenomdur. Kalıcı kesitlerde ise üç vakada struma ovari, bir vaka papiller tiroit karsinomu, bir vaka omental strumozis, bir vakada daha önce var olan meme kanseri metastazı saptanmıştır.*

Sonuç: *Struma ovari vakaları genelde benin karakterde olsa da bu tür vakalarda kanser ihtimali ve eşlik eden tiroit hastalıkları akılda tutulmalıdır. Ayrıca omenatl strumozis ve daha önceden var olan diğer kanserlerden metastaz ayırıcı tanıda akılda tutulmalıdır.*

Anahtar Kelimeler: *adneksiyel kitle, teraotom, struma ovari*

INTRODUCTION

Struma ovarii is first described by Bottlin in 1888 as ovarian goiter. It was suggested by Ludwig Pick that struma ovarii is a teratoma in which thyroid tissue is present [1].Struma ovarii cases are usually benign, only 5-10% of cases are malignant and the most common type of malignancy is papillary thyroid carcinoma (70%) [2, 3]. Struma ovarii accounts 0.5-1% of all ovarian tumors and 2-5% of ovarian teratomas [4].

The struma ovarii may be seen in all ages but it is generally seen in 5th and 6th decade of life. Although most of the cases are benign, clinical and radiological similarities to malignant masses leads to treatment with laparotomy [5].

In the present study 3 years' experience of struma ovarii cases were studied.

MATERIAL AND METHOD

Patients who underwent surgery for adnexal masses were investigated from archives of the hospital. Ethical committee approval was taken from the local ethical committee of the University (number: 09.2018.435). A total number of 185 patients underwent surgery in our center for ovarian masses in the last 3 years. Pathology results of 185 patients were investigated. Patients who had diagnosis of struma ovarii were included in the study. Six patients with struma ovarii were studied.

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Preoperative symptoms, findings were recorded together with demographical features of the patients. The size of the lesion, intraoperative findings and frozen section results and postoperative pathology results were evaluated.

RESULTS

Six struma ovarii cases were detected. It approximately accounts 3.2% of all ovarian mass cases. Half of the cases were postmenopausal and remaining were in reproductive age. Two of the cases had no symptoms and were diagnosed during routine controls. Two patients had the complaint of pelvic pain and remaining had the complaint of abdominopelvic mass. Three of the cases underwent laparoscopic surgery and others had laparotomy. The mean size of the mass was 9 (max:18 min:5) cm. Intraoperative frozen section results were struma ovarii for half of the cases, one was borderline tumor, one was seromucinous cystadenoma and one was mucinous cystadenoma. Postoperative final pathology results were evaluated, three of them were pure struma ovarii, one was papillary thyroid carcinoma in struma ovarii (Table shows clinicopathological features of struma ovarii patients). There were two striking pathology results, one was strumosis Omentum. In this case, 71 year old who had hysterectomy and unilateral salphingoopherectomy for leiomyoma and endometriosis ın her history admitted with complaints of abdominal mass and diarrhea. An irregular mass 10-12 cm in size was detected in left adnexal area. Accompanying ascites and high level of CA-125 suggesting malignancy indicated a laparotomy. Mass and omentum was excised and frozen result was struma ovarii. Histopathological examination revealed a monodermal teratoma mainly composed of benign thyroid tissue. Extensive sampling was performed but there was no malignant transformation. In the omentum, there were thyroid follicles within the adipose tissue (Figure1). There were no nuclear changes suggestive of papillary thyroid carcinoma. These implants are diagnosed as benign strumosis.

The second striking case was a 54-year-old patient with a history of breast cancer. A 4 cm heterogeneous solid lesion was detected in routine controls. Laparoscopic excision of a six-cm mass was performed frozen section diagnosis was struma ovarii. The surgery was completed after hysterectomy. In permanent sections, a focus of malignant epithelial cell groups was identified.

Immunohistochemically these cells were negative for WT1 and positive for ER. TTF-1 was positive in struma ovarii cells but negative in the neoplastic component (Figure 2). Morphological and immunohistochemical features are consistent with patients known breast cancer metastasis.

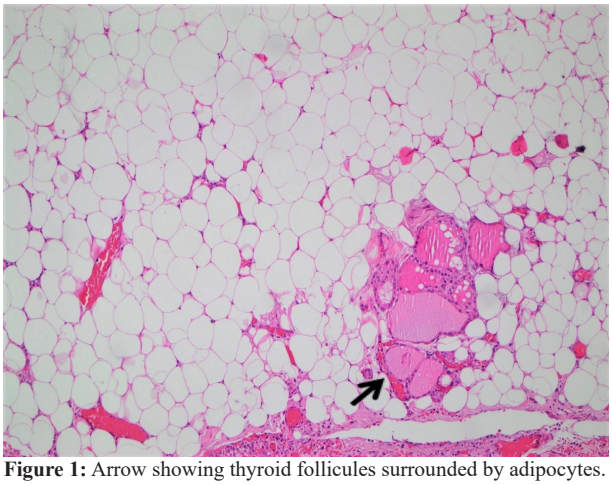


Figure 1: Arrow showing thyroid follicules surrounded by adipocytes.

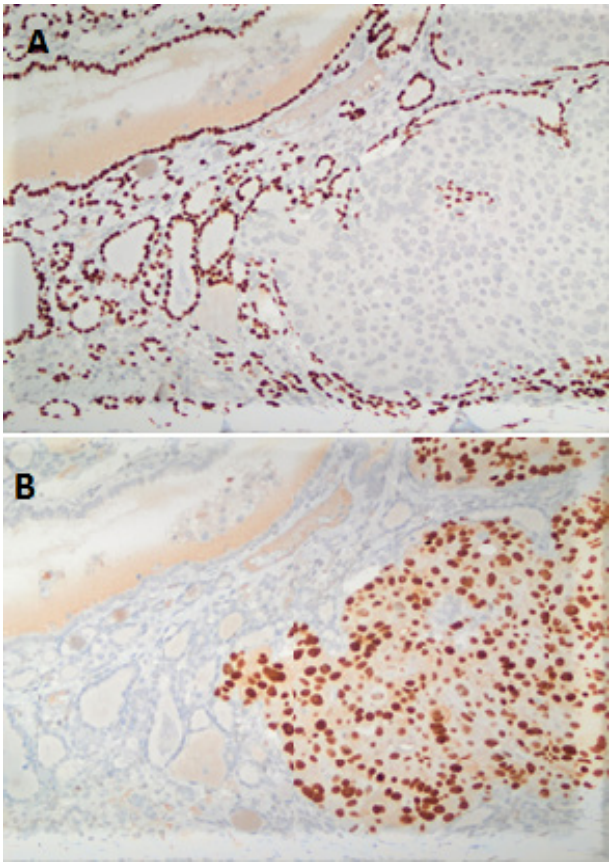


Figure 2: A: thyroid transcription factor-1 stained thyroctes, **B**: estrogen receptor stained cells.

Table: Clinicopathological features of struma ovarii patients.

Case	Age	Clinical Diagnosis	Size	Cystic/Solid	Frozen Section Diagnosis	Histopathological Diagnosis	Malignancy
1	71	Adnexal Mass Suspicious for Malignancy	12 cm	Solid and cystic	Struma ovarii	Struma Ovarii and Strumosis Omentum	No
2	42	Adnexal mass	5 cm	Cystic	Borderline Tumor	Papillary thyroid carcinoma in struma ovarii	Yes
3	29	Pelvic mass	18 cm	Cystic	Seromucinous cystadenoma	Struma ovarii	No
4	46	Pelvic mass	6 cm	Cystic	Struma ovarii	Struma Ovarii	No
5	54	Adnexal mass	6 cm	Solid	Struma ovarii	Metastatic breast carcinoma to struma ovarii	Yes
6	57	Adnexal mass	7 cm		Mucinous Cystadenoma	Struma ovarii	No

DISCUSSION

Struma ovarii is a monodermal teratoma where there is extensive differentiation to thyroid tissue. Among ovarian tumors, it accounts 0.5-1% [4]. A total number of 185 patients underwent surgery in our center for ovarian masses in the last 3 years.

Six struma ovarii cases were detected among those cases which approximately account 3.2% of all ovarian mass cases. This increased ratio may be attributable to the status of our center in which complicated cases are referred for surgery.

Struma ovarii is generally seen in 5 and 6 decades in women [5]. When the ages of the patients are evaluated, the youngest patient was 29 years old and the oldest patient was 71 years old age. Two of the patients were in the fourth decade and remaining two were in the fifth decade.

Struma ovarii cases are generally benign in nature. Only 5-10 % of malignant cases are detected in struma ovaries. The mostly seen malignancy in struma ovarii is the papillary thyroid carcinoma [2, 3]. Among our 6 cases of struma ovarii, only one patient (16%) had a malignancy of papillary carcinoma of follicular type. Similarly, Wei et al. showed 10 papillary carcinomas among 96 cases of struma ovarii [6]. One patient had breast tumor metastasis into the struma ovarii. Although struma ovarii has a benign course macroscopic and microscopic examinations are important to detect rare malignancies. Peritoneal dissemination is not regarded as malignancy. In most of the cases, the course of strumosis is uneventful. In our cases, patients are followed up without disease.

Struma ovarii may show changes similar to thyroid pathologies. Hashimoto like thyroiditis may be seen. Patients may have simultaneous thyroid pathology. In our series preoperative and postoperative TSH levels of all patients were in normal range. Additionally a thyroid ultrasound was performed by a radiologist to all struma ovarii cases but no remarkable finding was noted.

CONCLUSION

Although Struma ovarii cases are generally benign in nature malignancy risk and accompanying thyroid diseases should be kept in mind. Some extreme cases like strumosis omentum and metastasis from preexisting malignancies should also be kept in mind during differential diagnosis.

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