Struma Ovarii - A Rare Monodermal Teratoma

Anirudha V. Kushtagi[1], Arakeri S. U.[2], Santoshi Mata S. Rampure[3], Mahesh Kumar U[1]

[1]Assistant Professor, [2]Professor, [3]Postgraduate student

Department of Pathology, Shri B. M. Patil Medical College, Bijapur, Karnataka, India.

Abstract

The aim of this case report is to present a rare case of struma ovarii in a 55year old lady who presented with palpable abdominal mass which was painful since six months. Ultrasonographical study was suggestive of multiple cystic right ovarian mass and histopathology confirmed the features of Struma ovarii. struma ovari is a rare monodermal teratoma of ovary. Most of the struma ovarii are benign but rarely can undergo malignant change. Clinically they present with lower abdominal pain, lower abdominal mass, abnormal vaginal bleeding, ascites, pleural effusion, thyroid hyperfunction. The patient is under follow up and keeping fine.

Key words : Struma ovarii, teratoma, thyroid tissue, ovary

Introduction

Struma ovarii is a specialized monodermal form of mature teratoma, defined by presence of mature thyroid tissue in more than 50% of the tumor [1,2,3,4]. This relatively rare tumor comprises 1% of all ovarian tumors and 1-4% of all benign ovarian teratomas [2,4]. It was first described by Boettlin in 1899 [2]. It usually presents in the fifth decade. The tumor always presents as a pelvic mass and can present with lower abdominal pain and vaginal bleeding. Rarely it can be bilateral tumor [1,4]. We are reporting a case of struma ovarii in a 55 year old female.

Case report

A 55 year old female presented with lower abdominal pain and palpable abdominal mass since six months. No other clinical findings were noted. She has two living children and attained menopause 12 years back. Ultrasonography revealed right ovarian cystic mass and clinically diagnosed it as right ovarian tumor.

Patient underwent panhysterectomy and omental tissue excision. Ovarian mass was measuring 10x8x6 cm, with smooth to nodular surface, cut surface was multi cystic, cysts were varying from 1 to 6 cm in diameter and filled with brownish gelatinous jelly like material (Figure 1).

Microscopic examination (Figure 2 and 3) revealed, more than 50% 0f the tumor tissue was made up of colloid filled benign thyroid follicles and scant ovarian tissue. Cartilage, neural tissue or adnexal tissues were not seen. There was no evidence of malignancy in the representative sections studied. Thus, on histopathology, a diagnosis of benign mature teratoma - struma ovarii was made. Microscopically, uterus showed atrophic endometrium, cervix revealed mild dysplasia, left ovary and omental tissue were unremarkable. The patient is under follow up and keeping good health.

Figure 1. Ovarian multiple cystic mass.

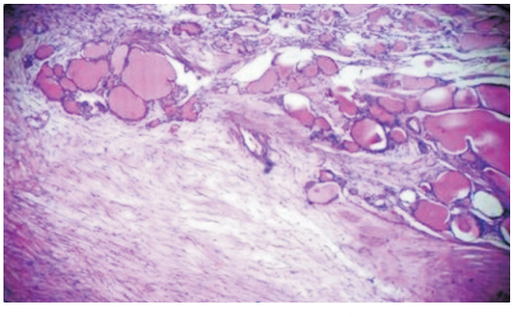

Figure 2. Photo micrograph of ovarian tumor showing thyroid follicles (H&E,100X)

Address for correspondence

Dr. Anirudha V. Kushtagi, Assistant Professor, Department of Pathology, Shri B. M. Patil Medical College, Bijapur, Karnataka, India. **E-mail:** dravkushtagi@gmail.com

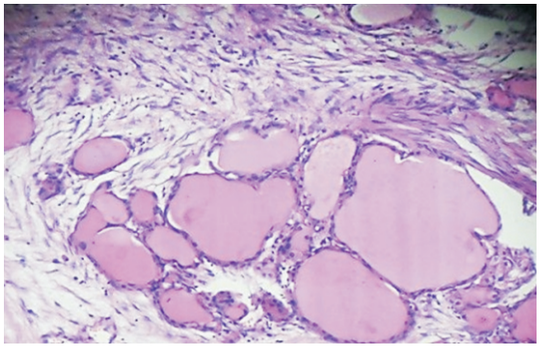

Figure 3. Photo micrograph of ovarian tumor showing thyroid follicles (H&E,400X)

Discussion

Struma ovarii is termed when a teratoma contains more than 50% of mature thyroid tissue, the follicles filled with colloid and lined by cuboidal epithelium [1]. It is a rare monodermal teratoma [1,2,3]. It was first described by Boettlin in 1899 [2,3,4].

The pathogenesis of struma ovarii is unclear [5]. It usually presents in the fifth decade. Clinically, presents with lower abdominal pain, palpable lower abdominal mass, abnormal vaginal bleeding, ascites, pleural effusion and thyroid hyperfunction. Its diagnosis rests on histopathological study [5]. Our patient presented with abdominal pain, abdominal mass and ultra sonography revealed unilateral cystic ovarian mass with possibility of ovarian tumour.

Immunostains for thyroglobulin and thyroid transcription factor-1 will confirm the diagnosis in difficult cases [1]. We have not studied immunohistochemistry in our case. It rarely presents with Psuedo-Meig's syndrome [1,4]. Struma ovarii are nonfunctional but rarely can present with features of hyperthyroidism [1,2,4]. According to few studies incidence of hyperthyroidism is 5-8% in Struma ovarii [2]. It can rarely present with Hashimoto's thyroiditis [6]. Thyroid hormonal levels were within normal limits in our patient. Most of Struma ovarii are benign, very rarely can progress to malignant form. According to various reports, malignant transformation accounts for 0.3% to 5% cases of all the struma ovarii tumors, having follicular, papillary carcinoma and mixed variants [1,3]. Important histopathological features of malignancy are cellular atypia, hyperplasia, nuclear pleomorphism, vascular and capsular invasion [3]. These features were not seen in our patient. Like other epithelial tumors, serum levels of CA-125 may be elevated in these tumors [3,4]. We have not studied the serum levels of CA-125 in our patient. Peritoneal or omental implants of well differentiated thyroid tissue can be seen in patients with benign struma ovarii which is known as strumosis [1,6]. In our patent omental biopsy was unremarkable.

Surgical resection is the therapy for benign struma ovarii and the outcome is usually favorable [1,3,5]. Malignant cases may require additional treatment [1,2].

Our patient underwent panhysterectomy with omental biopsy; histopathology of right ovarian cystic mass revealed more than 50% of tumour tissue with mature thyroid follicles confirming the diagnosis benign struma ovarii. The patient is under follow up and keeping good health.

Conclusion

Although ovarian teratomas may contain a small focus of thyroid tissue, but rarely teratomas present histopathologically with more than 50% of mature thyroid tissue in tumor and known as Struma Ovarii, these tumors can produce hyperthyroidism and rarely progress into malignancy, hence follow up is required. Clinical, laboratory and radiological features may mimic with other ovarian tumors, hence histopathological examination is important for the diagnosis of struma ovarii.

Acknowledgement

Authors would like to thank, Dr. B. R.Yelikar, Dr. Mahesh H. Karigoudar, Dr Praksh M. Patil, Dr. Amritha Singhal, Dr. Jaya Manchanda and Dr. Sharad Sinha Dept. of Pathology, BLDE University's Shri B. M. Patil Medical college Bijapur. Also thanks to Mr. Sandeep S. Nadgouda and Mrs. Sangeeta Y. J.

References

1. Zaloudec CF. Tumors of female genital tract, Part A Ovary, fallopian tube, broad ligament and round ligaments. In: Fletcher Christopher DM editor. Diagnostic histopathology of tumors 3rd ed. 2007. p 612-3.
2. Yoo SC, Mi Ok Lyu KC, Chang SJ, Ryu HS, Kim H. Clinical characteristics of struma ovarii. J Gynaecol Oncol. 2008 Jun; 19(2): 135-8.
3. Menon S, Deodhar K, Rekhi B, Jhon A, Maheshwari A. Unilateral malignant struma ovarii in a bilateral ovarian teratoma with raised CA-125 level: A rare case with treatment dilemmas. Indian J Pathol Microbiol 2011; 54: 578-80.
4. Rana V, Srinivas V, Bandopadhyay S, Ghosh SK, Singh Y. Bilateral benign non functional struma ovarii with Pseudo–Meig's syndrome. Indian J Pathol Microbiol 2009;52:94-6.
5. Barhmi R, Banani A, Melhouf MA, Nabil S, Ferhati D, Kharbach A et.al. Struma ovarii. A case report: Rv Fr Gynaecol Obstet 1995 Dec:; 90 (12): 539-41.
6. Bozkurt NC,Karbek B, Ozakaya EC, Cakal E and and Delibasi T. Struma ovarii presenting with Hashimoto's thyroiditis: A rare case report. Journal of Medical Reports 2011;5:572.

Source of funding - Nil
Conflict of interest - None declared