CASE REPORT - PATHOLOGY

Struma ovarii – A case report

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ABSTRACT

Background: Struma ovarii is a variant of mature cystic teratoma or monodermal teratoma predominantly composed of mature thyroid tissue. Struma ovarii accounts for approximately 5 percent of all ovarian teratomas. The majority are benign tumours; however, malignant tumours of this type is found in a small percentage of cases. It is most common between the ages of 40 and 60 years .

Case details: 28 year old Female, presented with complaints of lower Abdominal pain – 6 months. Her menstrual cycles were regular with the normal flow with no dysmenorrhea. On bimanual pelvic examination, a mobile mass of 8 cm × 7 cm was found. Rest of the systemic examination was normal. Ultrasonography shows complex Right Ovarian Cyst. CA – 125 was normal. Patient underwent Laparotomy, Right Ovariatomy &Right Salphingectomy.Histology reported as Struma ovarii.

Conclusion: Struma ovarii is a rare tumor of the ovaries and its clinical appearance may vary: it may be asymptomatic, mimic malignant ovarian tumor, or present with symptoms of hyperthyroidism and, in rare cases, it can even be a malignant tumor. We present this case of benign struma ovarii for its rarity .

Keywords: mature cystic teratoma, Struma ovarii , Hyperthyroidism

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INTRODUCTION:

Struma ovarii is a rare ovarian tumor composed predominantly of thyroid tissue. It is a germ cell tumor and accounts for about 2% of all ovarian germ cell tumors[1].

Most of these tumors are asymptomatic, being diagnosed unexpectedly after surgery [2]. It is also difficult to distinguish between struma ovarii and dermoid cysts on the basis of their

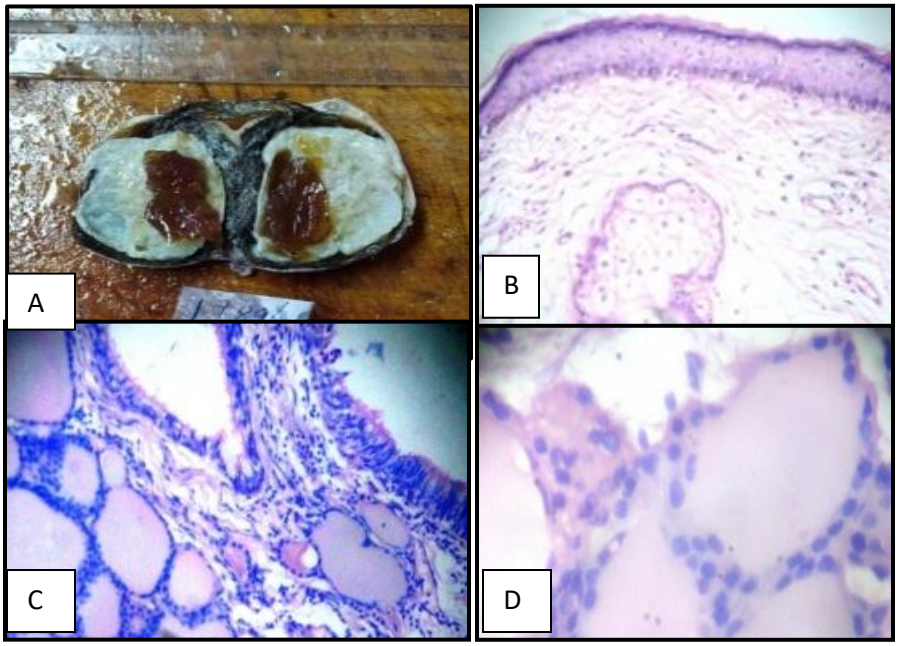
sonographic appearance[3]. Due to its ultrasound morphology, which is quite similar to that of malignant ovarian carcinoma, most struma ovarii cases are often operated on with laparotomy[2].

CASE DETAILS: A 28year-old woman para1, live 1 was admitted to our hospital for further investigation and treatment. Her past medical and family history were unremarkable, with the exception of prior LSCS,6 years back .Her menstrual cycles were regular with the normal flow .

On bimanual pelvic examination a mobile mass of 8 cm × 7 cm was detected. Rest of nation was normal. Lab investigations include T3 – 2.90nmol/L, T4 – 25.4 pmol/L & TSH – 0.2mU/L indicating hyperthyroidism. The other lab investigations were unremarkable. Ultrasonography shows Complex Right Ovarian Cyst. CA – 125 was normal.

Patient underwent Right Ovariatomy & Right Salphingectomy and the cyst wall sent for histopathological examination. Received, Right Ovarian cyst with Fallopian Tube measuring 6.5x6x2.5cm, Cut surface showed Unilocular cyst filled with Mucoid material,Tuft of Hair & Brown color material (Figure 1A).

Figure - 1



A)Cut surface – Unilocular cyst filled with Mucoid material, Tuft of Hair & Brown color material. B)Skin epidermis with Sebaceous gland. C) Thyroid follicles & RespiratoryEpithelium. D)Thyroid follicles are lined by cuboidal to columnar epithelium & filled with colloid

Microscopically, the tumor displayed a lobular growth pattern and was composed of thyroid follicles that resembled normal thyroid tissue constituting more than 50%. The cells were cuboidal to columnar and the follicles contained dense colloid. The nuclei were typically round to oval with minimal cytologic atypia and rare mitotic figures. The intervening stroma was scant, with extensive edema. Also seen are Skin with epidermis, Sebaceous gland and Respiratory Epithelium (Figure 1 B-D). Diagnosis of Benign struma ovarii was made. Postoperative period was uneventful.During the patient's follow up no complications occurred.

DISCUSSION:

Struma ovarii is a monodermal teratoma of the ovary that contains a large amount of thyroid tissue. This tumor was first described in 1889 by Boettlin. It comprises 1% of all ovarian tumor and 2.7% of all dermoid tumor.[2] Depending on the histologic features, struma ovarii can be classified as benign or malignant. It is mostly benign, with malignant transformation in just 5%.[3] It is a rare tumor and its diagnosis is almost always done incidentally after an ovarian mass has been removed.

Struma ovarii occurs more frequently in premenopausal women and the mean lesion diameter rarely exceeds 6 cm diameter[3]. In our case it occured in younger age & the tumor size was 6cm.

The ultrasound features of struma ovarii are also nonspecific, but a heterogeneous, predominantly solid mass may be seen. Other ovarian teratomas that include mature cystic teratomas (dermoid cysts), immature teratomas, and monodermal teratomas (eg, struma ovarii, carcinoid tumors, and neural tumors) may also show the same features [4,5] Struma ovarii may cause hyperthyroidism and in our case patient was diagnosed to have hyperthyroidism & was on treatment. Several other authors have reported hyperthyroidism caused by struma ovarii. Lazarus et al.[6] described a patient with struma ovarii and hyperthyroidism whose diagnosis was made by radioiodine profile scanning and then ovarian tumor was removed.

Grandet & Remi[7] reported a case of hyperthyroidism after total thyroidectomy. A whole body scan with iodine-131

confirmed struma ovarii that was bilateral, which occurs in 5% to 10% of patients with this condition. In our case, it was unilateral presentation. Ascites may be associated in one-third of the cases.[4] In our case there is no Ascites. Once diagnosed, surgery is the primary modality of the management. Conservative surgery (cystectomy and oophorectomy) is recommended for struma ovarii especially if they have fertility potential, and laparoscopic approach should be the preferred route owing to obvious advantages of laparoscopic surgery.

Benign struma ovarii and malignant forms without metastasis have good prognosis. Ascites or pleural effusion if present disappears after surgery. Malignant cases should also undergo total thyroidectomy followed by radioiodine therapy (131I). Serum thyroglobulin is used as tumor marker for follow-up in these malignant cases.

CONCLUSION: The struma ovarii is a very rare tumor, the association with hyperthyroidism can occur and requires an adequate follow up after surgery. Prognosis is good for these tumors. It is difficult to diagnose these cases preoperatively as there are no specific clinical, radiological or serum markers for these rare tumors in the absence of thyroid abnormality. Histopathological examination is mandatory in these cases.

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