

On laprotomy, minimal ascitis was seen in pelvis and pouch of Douglas. Total abdominal hysterectomy with bilateral salpingo-oophrectomy was performed. Right ovary had a bossellated surface and the tumor was seen to be having both solid as well as cystic areas. Grossly no tumor rupture was seen at the time of laprotomy. Left ovary was atrophic. Biopsy from both paracolic gutters was taken. Para aortic node dissection and sampling was done. Peritoneal lavage fluid was also sent for cytology.

Grossly, right ovary measured 7.5 x 6.0 x5.5 cm and was completely encapsulated. Cut section through the tumour was multiloculated with solid and cystic areas. On cutting open the cystic areas, grayish brown thick material was drained out (figure 2). Histologically, multiple sections taken from the right ovary revealed varying sized thyroid follicles containing colloid. These thyroid follicles were lined by cuboidal epithelial cells (figure 3). The final diagnosis of struma ovarii of the right ovary was made based on the morphological features.

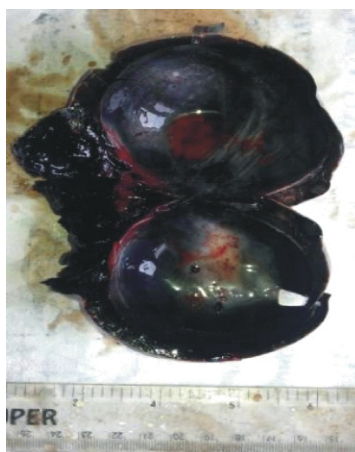


Figure 2: Gross picture showing encapsulated tumour with greyish brown fluid

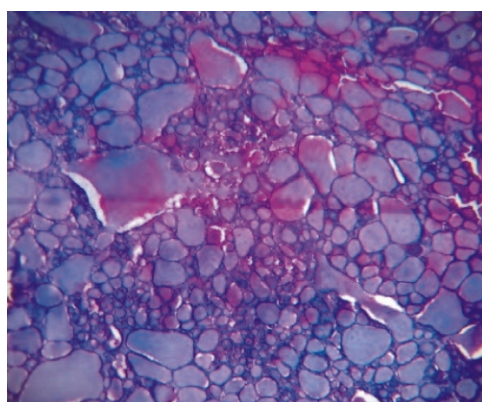


Figure 3: Ovary replaced by varying sized follicles lined by cuboidal epithelium filled with colloid

DISCUSSION

Mature cystic teratomas constitute 20% of all ovarian tumors. Approximately 15% of these mature cystic teratomas contain normal thyroid tissue. Boettlin in 1889 and Gottschalk in 1899 first described struma ovarii as a monodermal variant of ovarian teratoma⁵. Struma ovarii accounts for nearly 3% of all mature ovarian teratomas and is the most common type of monodermal teratoma.⁶

Struma ovarii and its malignant counterpart arising within struma are included under the heading of monodermal teratoma and somatic type tumors associated with dermoid cysts according to the world health organization (WHO) classification of ovarian tumors.⁷

Struma ovarii shows age distribution that ranges from 6 to 74 years with average age of 40s and peak age at 50s and is rare in prepubertal girls or in elderly women.⁸ Age of the patient in our case was 64 years which comes under the elderly age group. Clinically patients with struma ovarii show variable presentations including lower abdominal pain, palpable lower abdominal mass, ascitis, abnormal vaginal bleeding, pleural effusion and thyroid hyperfunction. The diagnosis of struma ovarii is based mainly on the histopathological examination.⁹ In difficult cases immunostains for thyroglobulin and thyroid transcription factor 1 confirms the diagnosis.¹⁰ In our case patient presented with pain in the lower abdomen and loss of appetite. In most of the cases, struma ovarii are benign and usually unilateral.¹¹

It is very difficult to make a preoperative diagnosis in struma ovarii because the radiological investigations including ultrasonography, computed tomography and nuclear magnetic resonance are non specific. These techniques only show adnexal mass consisting of solid and cystic parts.⁴ In our case USG revealed complex right adnexal mass. C T scan and MRI gave the impression of right adnexal malignant lesion.

Grossly struma ovarii shows solid and cystic structures. The cysts are filled with green brown fluid and the solid area is red brown or tan or yellowish in colour.⁸ In our case grossly the tumor was multiloculated with both solid and cystic areas and thick brownish material was drained out from these cystic areas. The final diagnosis of struma ovarii was made on the basis of histopathological examination. A few typical thyroid follicles are seen on microscopic examination that may result in confusion with other cystic

ovarian tumors. To establish the thyroid nature of the epithelial lining, extensive sampling should be undertaken and immunohistochemistry may be decisive.¹² In our case microscopy of the ovarian mass revealed varying sized follicles lined by cuboidal epithelium that were filled with colloid.

Criteria for the diagnosis of malignant struma ovarii is the same as that in thyroid carcinoma.¹³

CONCLUSION

Struma ovarii is a rare type of mature cystic teratoma composed of thyroid tissue in variable amount. Preoperative diagnosis is very difficult because the radiological findings on USG, CT scan and MRI are non specific. Final diagnosis is based on the histopathological examination.

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