

STRUMA OVARIII

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Amongst the ovarian neoplasms, struma ovarii is rather a rare tumour. While the histological picture in the typical case leaves little doubt as to the thyroid nature of the tumour, one may be misled by the pseudo-thyroid appearance at times seen as a result of degenerative changes in either adenocarcinoma or cystadenoma of the ovary. That genuine thyroid tissue is concerned, has been demonstrated by chemical determinations of iodine contents as well as by biological tests with the tumour tissue (Plaut, 1930). Now it is thought that this tumour is basically a teratoma, in which thyroid tissue has overgrown all other elements, producing a tumour made up entirely, or in large part, of thyroid tissue. For the same reason the tumour presents three different histological pictures. (i) In association with dermoid of the ovary, (ii) with serous or pseudomucinous cyst of ovary, and (iii) in a pure form without the presence of a dermoid or cyst-adenoma.

To quote Smith (1946) in this connection, who has reviewed 156 cases from the literature, 76 cases were associated with dermoid of ovary, 46 cases were associated with either

serous or pseudomucinous cyst-adenoma and the remaining 26 cases were pure thyroid tissue tumour.

Struma ovarii is usually unilateral. In Nicholson's (1950) review of 132 tumours of this nature, most of them were unilateral. Bilateral tumours were very few, and even in these the pure form of struma ovarii was seen in only one ovary. The other ovary showed associated serous or pseudomucinous cyst.

We are reporting a case of struma ovarii, primarily for its rarity in literature, and the presence of the tumour in both the ovaries.

Case Report

A woman aged 50 years was admitted in Medical College Hospital, Nagpur, with the complaints of difficulty in defaecation of 4 months' duration and inability to pass urine since previous evening. She had four full-term normal deliveries. The last child was born 6 years back. Examination per abdomen revealed a tumour mass arising from the pelvis and extending midway between symphysis pubis and the umbilicus. This mass was not freely movable. A

small sized mass, 1" x 1", was felt over the first tumour mass. This was freely movable and hard to the feel.

Vaginal examination showed an anteverted uterus. This was freely mobile and was felt separate from both the tumours. The cervix uteri was pushed behind the symphysis pubis and was eroded and unhealthy. A hard lump, 4" x 4", was felt in the pouch of Douglas. This could be moved with the uterus. A hard mobile tumour of the size of a lemon was felt over the mass. The fornices were clear. A small cystocele and a rectocele were present. The lump in the Douglas's pouch was felt per rectum. Rectal mucosa was free over the mass.

The clinical diagnosis established was either a broad ligament fibroid or a broad ligament cyst. Under spinal anaesthesia abdomen was opened by a midline incision. A multilocular cyst was found in the right ovary. It was excised. The left ovary was also cystic and hence was removed. These cysts contained gelatinous mucinous fluid and these specimens were sent to the Department of Pathology with a label "Pseudomucinous cysts of both ovaries".

Gross and Microscopic Appearance

Tumour mass from the right ovary measured 8 x 5 x 2 cms. It was cystic in some areas and solid at other. The external surface was smooth and glistening white and showed few prominent veins. The cut surface was multilocular, showing loculi of varying sizes. Some of the loculi were empty and others contained brown coloured gelatinous fluid, almost looking like colloid (Fig. 1—

area marked with an arrow). One area showed a large unilocular cyst with very thin wall. This cystic cavity contained serous fluid. A part of the tumour mass was solid, greyish white in appearance and measured 3 x 1 x 1 cms.

Tumour from the left ovary measured 3 x 2 x 2 cms. It was a globular cystic mass with a smooth glistening white external surface. The cut surface showed a multilocular cyst filled with gelatinous material (Fig. 1—area marked with an arrow). A part of the wall about 0.5 cm. in thickness was solid, while the rest of the tissue was a large cyst containing serous material.

Microscopic Appearance

Six sections from different parts of the right ovary and two from the left were studied. In most of the sections from the right ovary, acini of varying sizes lined by low cuboidal epithelium and filled with deep pink stained material, resembling colloid, were seen (Fig. 2). These acini were patchy in distribution throughout the field. Section from the wall of the large cyst in the right ovary showed a cyst wall lined by stratified squamous epithelium (Fig. 3). The cells had desquamated at most places. Section from the solid part in the left ovary showed small patches of thyroid acini. The large cyst in the left ovary was histologically a serous cystadenoma.

Comment

In the medical literature in India so far there are only two papers, one by Kothari and Bhende (1950) and

the other by Wahal et al (1953), each reporting two cases of struma ovarii. Both the cases reported by Kothari & Bhende were unilateral. Histologically one showed only thyroid tissue without any other components of a dermoid whereas the other was associated with a dermoid. Out of two cases reported by Wahal et al, one was bilateral and the other unilateral. These cases were associated with serous or pseudomucinous cystadenoma of ovary, but no other teratomatous elements could be seen.

The present case under discussion resembles one of the cases reported by Wahal et al. The tumours were bilateral and were associated with dermoid and serous cystadenoma of ovary respectively. On the operation table, loculi filled with colloid-like material were mistaken for pseudomucinous cystadenoma of ovary, but histology revealed its true nature.

In the present case the woman never presented any signs of hyperthyroidism. This is the observation of other authors also, both in India as well as abroad. Emge (1940) believes that only 5 per cent of cases reported by him showed signs of hyperthyroidism.

Iodine could not be demonstrated in the tumour tissue because of lack of equipment and chemicals. An attempt was made to demonstrate thyroxin in the tumour mass by the technique recommended in the British pharmacopœia (1948). As a control, formalin-fixed normal thyroid tissue was also used. Both failed to reveal thyroxin. As the tissue was formalin-fixed, no biological test was attempted.

An attempt was made to identify the colloid material as that of thyroid tissue by the staining technique recommended by Stein (1940). The deep reddish tint of polychrome methylene blue taken up by the material identified it as colloid of thyroid tissue. Thus it was on histological as well as by the selective method of staining of the colloid material that the tumour was established as 'struma ovarii'.

Summary

- (1) A case of struma ovarii is reported.
- (2) The tumour was bilateral. In the right ovary, it was associated with a dermoid, while in the left, with a serous cystadenoma.

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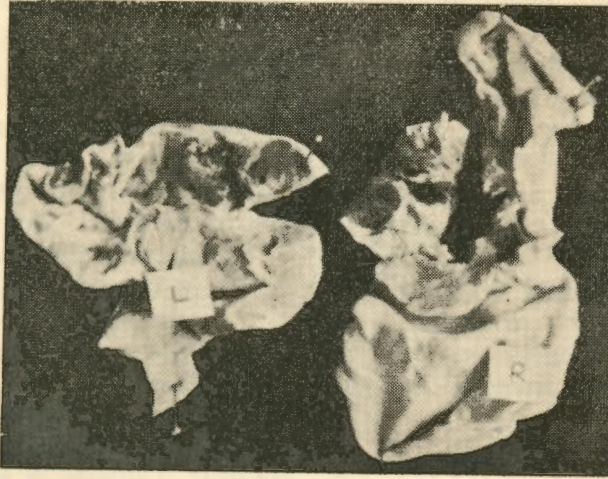


Fig. 1
Photograph showing tumours with ovaries.

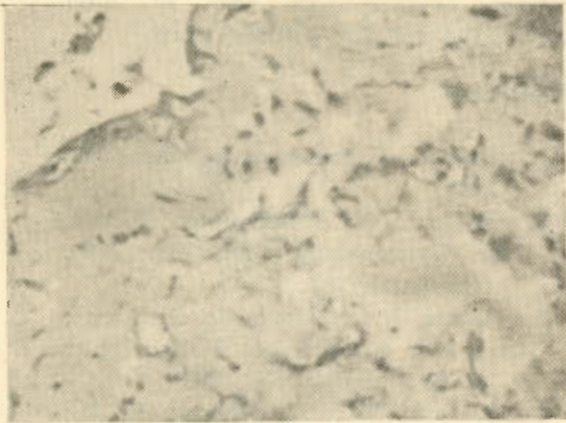


Fig. 3
Microphotograph of the tumours proper.



Fig. 2
Microphotograph of the tumours proper.