TWISTED DYSGERMINOMA OF OVARY ASSOCIATED WITH PREGNANCY

by

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and

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In gynaecological practice ovarian tumours are not infrequently met with. In our department, one out of every thirty-eight cases sought admission for an ovarian tumour. Table 1, presents various types of ovarian tumours admitted to our institution from January 1962 to July 1967. Out of a total of 127 cases of ovarian tumours, dysgerminoma accounted for 4.7%. This gives an incidence of one case of dysgerminoma to 794 admissions to gynaecological wards. Muller *et al* (1950) have reported that 1.1% of the ovarian tumours were dysgerminoma; Able (1961) observed these growths in 3% of the malignant ovarian tumours.

There are a few case reports from our country on dysgerminoma. Purandare (1955) reported six cases of dysgerminoma out of 45 malignant ovarian tumours. Phillips and Gurcharan Kaur (1965), and Chakrabarty (1965), each, published one case of dysgerminoma with pregnancy. Misra (1958) reviewed the world literature on 544 cases of dysgerminoma and reported that very few cases were associated with pregnancy. So far, about twenty cases of dysgerminoma associated with pregnancy have appeared in world literature.

It was in 1931 that Meyer described this tumour for the first time as a separate clinical entity and believed that it was frequently seen in hermaphrodites and pseudohermaphrodites. Novak opined that dysgerminoma should always be suspected in sexually underdeveloped women. He believed that dysgerminoma arises from the cells of early undifferentiated gonads.

These tumours occur frequently during the age group of second and third decades. However, cases have been reported as early as six years and as late as 38 years of age. Dougherty and co-workers (1950) published 56 cases of solid ovarian tumours with pregnancy, nine of which were dysgerminomas. Involvement of right ovary is more commonly observed. Reddy and Anwal (1962), while describing histopathological pictures of dysgerminoma, have reported the localisation of the tumour more commonly on the right side. Seegers has offered an explanation that embryologically the right

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Received for publication on 14-12-67.

TABLE I

Types of Ovarian Tumours Admitted to the Gynaecological Department
(JAN. 1962 to JULY 1967)

Types	Number of cases
Malignant	45
Adenocarcinoma	22
Pappillary cyst carcinoma	6
Dysgerminoma	6
Carcinoma of ovary	5
Granulosa cell tumour	2
Cystic teratoma	2
Embryonal carcinoma	1
Squamous cell carcinoma	1
Total	90
Benign	82
Simple serous cyst	47
Mucinous cyst	14
Cystadenoma	7
Fibroma	6
Adenoma	3
Brenner's tumour	2
Fibroadenoma	2
Innocent epithelium	1
Total	154

ovary develops more poorly and slowly. In birds the right ovary remains underdeveloped throughout the whole life. These growths are usually unilateral but many involve both sides. Twisting in solid ovarian tumours is very rare and may be due to the mobility of tumours associated with softening, engorgment and elongation of the pedical during pregnancy.

Case Report

R.N., 32 years, 3rd gravida, 2nd para was admitted to the department of Obstetrics and Gynaecology, J.J. Group of Hospitals and Grant Medical College, Bombay, on 13th January 1967, for amenorrhoea of 3½ months and severe pain in abdomen for one day. The pain was associated with nausea, vomiting and fainting attacks. The patient had a similar attack 15 days prior to admission. Menstrual cycles prior to the amenorrhoea were normal. She had two stillbirths at 8 months and 7 months of gestation about 24 and 7 months ago, respectively. There was no history of toxaemia during previous pregnancies, but the patient had recurrent attacks of pain in abdomen during those pregnancies, too.

Physical examination: She was a well built, moderately nourished young woman. Pulse was 105/min., regular with good volume and tension. B.P. was 100/70 m.m. of Hg. and temp. was 98.4°F. cardiovascular and respiratory systems were normal. On abdominal examination, 14 weeks' pregnant uterus was palpable. A separate, partially mobile, tender mass of about 8 x 8 cms. with solid and cystic areas was palpable in the right iliac fossa. Internal examination revealed that cervix was soft, directed downwards and backwards. The pregnant uterus was pushed to the left by a separate tender mass in the right fornix which extended to the right iliac fossa. The size and tenderness of the mass were confirmed by internal examination. Leucocytosis with increased polymorphs was present. A clinical diagnosis of twisted ovarian tumour with pregnancy was made.

Operative findings:

Exploratory laparotomy was carried out on the day of admission. The pregnant uterus of 14 weeks' size was seen pushed to the left side. A large greyish white lobulated, encapsulated tumour could be visualised arising from the right ovary. The size of the mass was 14 cms X 7 cms X 3 cms. The surface was irregular without any areas of haemorrhage. The tumour was twisted 1½ times at the pedicle which was formed by the right fallopian tube and the right ovarian ligament. There was no free fluid in the peritoneal cavity. The left fallopian tube and ovary were absolutely normal. The tumour was suspected as malignant. But considering the encapsulation of the tumour, the age of the patient, (32 years) and the fact that she had no living child, conservative surgery was carried out by performing right salpingo-oophorectomy.

Pathological findings:

The tumour weighed 340 Gms, and had dimensions of 12 x 8 x 4 cms. It was solid and cystic at places. Photograph 1). The cut section showed greyish white strands, with myxomatous degeneration and small cystic cavities. An area of haemorrhagic necrosis was visualised at one place.

Microscopic examination showed that the tumour had malignant cells arranged in nests and surrounded by fibrous stroma. There were occasional Langhan-like giant cells. The tumour cells were large, pleomorphic in shape and had scanty pink cytoplasm and large hyperchromatic nucleus (photographs II and III). The tumour was encapsulated. The pathologst's diagnosis was dysgerminoma of the ovary.

Follow up:

The post operative period of the patient was smooth. Exogenous progesterone was not given and she was discharged on 15th post-operative day. The patient delivered a full-term healthy female infant and till the time of reporting, she has no evidence of recurrence of the disease.

Comments

The incidence of ovarian tumours varies from institution to institution. We have a relatively higher incidence of ovarian tumours, particularly of dysgerminoma. It is very rare to come across a case of twisted solid ovarian tumour associated with pregnancy as reported here.

The cause of dysgerminoma, like any other malignancy, is obscure. However, its association with the right ovary is outstanding, as the right ovary develops slowly in human beings and does not develop in birds. Many such cases are either hermaphrodites, pseudohermaphrodites or infertile. Our case had dysgerminoma of right ovary and had two stillbirths at 32 and 28 weeks within a period of two years, which perhaps indicate that the tumour was present since that time or even earlier.

A controversy still persists regarding the management of a case of dysgerminoma. Broddy believed in conservative approach while Pedowitz *et al* have favoured radical therapy which leads to subsequent loss of reproductive capacity. The latter is an important factor as these tumours are common in early childbearing period. However, there are reports of successful pregnancies after conservative surgery, and the five years survival rate is reported to be 12.5 to 75%. After conservative therapy, thorough follow up of the case is absolutely necessary to search for the development of secondaries.

In the cases where the tumour has infiltrated the surrounding tissues, radiotherapy is mandatory.

The case reported here, a third gravida with two previous still births, had pregnancy of 3½ months and an encapsulated tumour with no free

fluid in the peritoneal cavity or any other sign of malignancy. She was submitted to conservative surgery. The pregnancy continued to term and she delivered a healthy normal female child. The short term follow-up of four months did not reveal any signs of recurrence of malignancy or metastases.

Summary

(1) A case of twisted dysgerminoma of ovary associated with pregnancy in a third gravida of 32 years with a history of two stillbirths within the last years is reported.

(2) Conservative surgery was carried out and the patient delivered a full-term healthy female child.

(3) A review of literature on the subject is presented.

Acknowledgement

We are thankful to Dr. D. V. Virkar, Dean, J.J. Group of Hospitals and Grant Medical College, for his kind permission to make use of hospital records.

References

1. Abel, S.: Cited by Mary. Am. J. Obst. & Gynec. Brit. Emp. **68**: 679, 1961.
2. Chakrabarty, B.: J. Obts. & Gynec. India. **15**: 204, 1965.
3. Dougherty, C. M. and Lund, C. J.: Am. J. Obst. & Gynec. **60**: 261, 1950.
4. Meyer, R.: Cited by Ajit Mehta. J. Obst. & Gynec. India. **9**: 51, 1958.
5. Misra, S. J.: J. Obst. & Gynec. Brit. Emp. **65**: 440, 1958.
6. Mueller, C. W., Topkins, P. and Lepp, W. A.: Am. J. Obst. & Gynec. **60**: 153, 1950.
7. Novak's Gynaecologic & Obstetric Pathology with clinical and Endocrine Relations. ed. 5, Philadelphia, 1962, W. B. Sunder, p. 388.
8. Phillips, C. and Kaur, Gumcharan: J. Obst. & Gynec. India. **15**: 200, 1965.
9. Purandare, B. N. and Patwardhan, G. N.: J. Obst. & Gynec. India. **6**: 111, 1955.
10. Reddy, B. and Anwal, S.: J. Obst. & Gynec. India. **12**: 324, 1962.
11. Seegers, G. E.: Cited by Reddy, B. and Anwal, S. J. Obst. & Gynec. India. **12**: 324, 1962.

Figs. on Art Paper XIV and XV