DYSGERMINOMA OF THE OVARY ASSOCIATED WITH PREGNANCY

(Review of Literature and a Case Report)

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Dysgerminoma is one of the rare ovarian tumours without any endocrine effect. Meyer, in 1931, was the first to recognise this tumour as a separate entity and he pointed out that this tumour was most frequently seen in hermaphrodites and pseudohermaphrodites.

We had seven cases of dysgerminoma amongst the 426 cases of ovarian tumours which were admitted in the Government Hospital for Women, Amritsar, during the past ten years, giving an incidence of 1.6 per cent of all ovarian tumours. Muller (1950) reported the incidence of dysgerminoma as 1.1 per cent of all the ovarian tumours and 4.7 per cent of all the malignant tumours. Abel (1961) recorded the incidence as 3 per cent among the malignant ovarian tumours. Roughly it accounts for about 25 per cent of all the solid tumours complicating pregnancy.

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Dysgerminoma complicating pregnancy is very unusual and therefore the case is reported. Muller, Topkins and Lepp (1950) reported 11 cases of dysgerminoma with pregnancy. Watson, (1956), Misra (1958), Mary (1961), and Libert and Stent (1960) reported one case each making a total of 15 cases. Libert and Stent's case was further complicated by chorionepithelioma.

Case Report

J. K., 22 years, 4th gravida, 3rd para, was admitted on 21-2-1963 with the complaints of: (1) amenorrhoea — one year; (2) mass in the lower abdomen — 7 months and (3) dull pain over the mass at times severe for the last 5 months. Swelling was first noticed by the patient 7 months ago over the suprapubic region and gradually the swelling was lifted up by the pregnant uterus; on admission the swelling was felt in the right lumbar region.

Obstetric History: Three full-term normal deliveries. Last delivery — one year ago.

Menstrual Cycle: Onset at the age of 14. Cycles 4-5/30 days, regular. Lactational amenorrhoea since one year.

Physical Examination: Moderately built and well nourished individual. Pulse 82 per minute, blood pressure 110/70 mm. Hg. Nothing abnormal was detected in heart and lungs. Abdominal palpation — height

of uterus 26 weeks, foetal parts palpable, foetal heart heard.

In addition to the gravid uterus there was a globular mass, firm in consistency, 4″ x 5″, in the right hypochondrium and epigastrium. Swelling was mobile from side to side, surface was smooth. On vaginal examination, uterus was enlarged to 26 weeks' pregnancy; no swelling felt through the vaginal fornices.

Provisional Diagnosis: Ovarian tumour complicating pregnancy.

Operation: Exploratory laparotomy done on 25-3-1963. Uterus was enlarged to 26 weeks' pregnancy. Left tube and ovary were healthy. Right ovary was enlarged by the tumour mass to 4″ x 5″. Tumour was mostly solid. Right tube was stretched over the tumour. With minimum of handling right ovariotomy was done and specimen, preserved in 4% formalin, was sent for histopathological examination. In the post-operative period patient was given sedatives for 3 days. Post-operative period was uneventful.

Histopathological report of the tumour —on cut section tumour had a thin capsule, most of the tumour was solid except for few small areas of necrosis. Microscopically groups of large rounded cells, each having a large round deeply staining nucleus, were shown. There was moderate degree of pleomorphism of cells. In between the groups of cells, there was scanty connective tissue in which there were numerous lymphocytes. There were large areas of necrosis also.

Follow-up: Patient was regularly attending the antenatal Clinic. She delivered a full-term live male child on 22-7-1963 without any congenital deformity and was discharged on the 7th day of the puerperium. She comes regularly for follow-up after her discharge and was last seen on 2nd October 1964.

Discussion

Dysgerminoma in most instances is found in women during the 2nd and the 3rd decades of life, but cases have been recorded in young children and women over the age of 40 years (Santesson, 1947).

In the 15 cases reported with pregnancy the age incidence varied from 18-30 years and in 10 patients it was the first pregnancy, in 2 cases it was the second, in another 2 cases the third, and in one case it was the sixth pregnancy. In the case under report it was the fourth pregnancy. Most frequent symptoms are pain over the lower abdomen and abdominal enlargement. There may be nausea and vomiting probably due to irritation of the serosa occasioned by necrosis. It is readily understandable that these symptoms accompanying pregnancy might mean little. Ascites in varying amounts is reported as being present in about one-third of the cases. It may vary from straw-coloured to blood-stained, and when haemorrhagic, prognosis is rather poor. In the case presented, there was no ascites.

In the cases reported with pregnancy there were no symptoms in 5 cases, in six cases tumour obstructed labour, in the rest of the cases they caused symptoms during pregnancy or in the puerperium. In the case under report the only complaint was dull sort of pain over the swelling.

Dysgerminomas are generally unilateral; but may involve both sides. When unilateral, the right ovary is said to be predominantly affected Seegers (1962) offered his explanation for the right-sided development of the tumour that embryologically right ovary developed more slowly and to a lesser degree than the left. So if an undifferentiated tissue remains dormant, the probability of the occurrence in the right ovary is

greater than in the left. Bilateral dysgerminomata may represent either that they are primary tumours or metastasis from a primary tumour in the other ovary by retroperitoneal lymphatic spread.

Majority are in agreement with the view put forward by Robert Meyer (1959) that this tumour arises from cells associated with the undifferentiated stage of gonadal development. These neuter cells are without any hormone-producing property.

Dysgerminoma is always to be regarded as malignant even though the degree of malignancy is variable. It is definitely less malignant than primary carcinoma of the ovary, but its potentiality to malignancy and recurrence is well stressed by many authors.

Since these tumours occur frequently in the 2nd and the 3rd decades and majority of the patients having dysgerminoma associated with pregnancy are in this more favourable age group, natural tendency has been toward conservative treatment. In the cases reported in the literature, operative procedures have varied from simple removal to the more radical total hysterectomy and bilateral salpingo-oophorectomy. In the cases associated with pregnancy, simple removal of the tumour was done in 12 cases and in the other three cases pan-hysterectomy was performed. From consideration of the cases so far recorded it does not appear that prognosis of patients suffering from dysgerminoma is really made worse by pregnancy. Majority are of the view that when the less radical approach is undertaken, the patient must have a close follow-up with a more radical surgical attack and possible x-ray therapy, should recurrence be evident. In the case presented simple removal of the tumour was done and the patient is under close observation. If at any time recurrence occurs, she will be treated by radical surgery.

Mortality and Recurrence

Mortality rate reported in the literature is variable, ranging from 18.8 to 70.6 per cent based on 5 years' survival. According to Novak recurrence rate is 32 per cent, whereas Pedowitz et al., (1955) found recurrence in 52.9 per cent of apparently encapsulated tumours.

Summary

A case of dysgerminoma associated with pregnancy has been reported.

Literature on dysgerminoma has been reviewed in brief.

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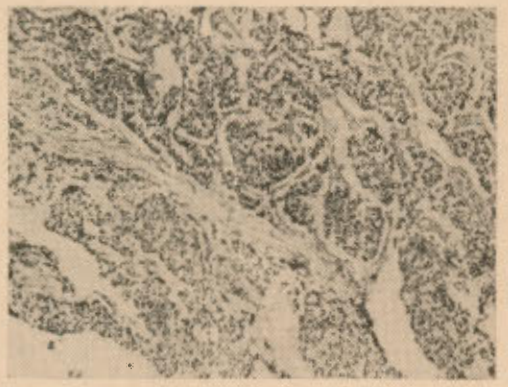

Fig. 1
Photomicrograph of the tumour
(Dysgerminoma of the ovary.)