DYSGERMINOMA OF OVARY (A REPORT OF SIX CASES WITH REVIEW OF LITERATURE)

by

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This tumour of ovary is often wrongly spelt dysgerminoma; the prefixed dis was originally applied to denote "two" and not "difficult" or "disordered" and refers to the fact that tumour occurs in both sexes (Jeffcoate, 1975). Dysgerminoma was first identified by Chenat (1911), subsequently this tumour was recognised as separate entity and was called dysgerminoma by Meyer, 1931. Dysgerminoma arises from germ cells dating back to the undifferentiated stage of gonadal development, before its cells have become tinctured either male or female attributes (Meyer, 1931). Dysgerminomas are histologically identical to testicular seminomas (Willis, 1948). The reported incidence of dysgerminoma of ovary in literature is 1.1% (Muller *et al* 1950), 5.7% (Debrux, 1968), 4.1% (Agarwal and Saxena, 1972), 1% (Kalra *et al* 1979), 10% (Wider and O'Leary, 1968). However, Purandare and Patwardhan, 1955 have reported six cases of Dysgerminoma out of 45 malignant ovarian tumour.

In most of the reports of Meyer (1918, 1925 and 1931 b) a great emphasis was laid upon the frequent occurrence of sexual underdevelopment and pseudohermaphroditism associated with this tumour.

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Material and Methods

The present communication consists of 6 histologically proved and well documented cases of dysgerminoma recorded in the Department of Pathology and Microbiology, Dr. Sampurnanand Medical College, Jodhpur from a period of 1968 to December, 1979. Out of 620 ovarian neoplasm, 6 were dysgerminoma, giving an incidence of .9%.

The salient clinico pathological features of these six cases of Dysgerminoma has been shown in Table I.

Observations

In the present series the major presenting complaints have been lump in lower abdomen, menstrual disorders and pain abdomen. The age ranged from 12 years to 30 years. The treatment in 4 cases was unilateral salpingo-oophorectomy and in 2 hysterectomy with bilateral salpingo-oophorectomy, was performed. The follow up was possible in 3 cases for a period ranging from 3 to 6 months where no recurrence or distant metastases were recorded.

TABLE I

Clinico-Pathological Features of Six Cases of Dysgerminoma

S.N.	Age in years	Presenting Symptoms	Macroscopic Features	Microscopic Features	Metastasis if present	Uni/Bi Lateral	Treatment
1.	22	Para 1. Lump in pelvis, pain abdomen	Rounded grayish white friable mass encapsulated of 9 x 7 x 6 cms	Characteristic of dysgerminoma with necrosis and haemorrhages	NIL	UNI-Lateral	Unilateral Salpingo-oophorectomy
2.	22	Para 1. Feeling of heaviness and pain, excessive vaginal bleeding	Peritoneal haemorrhage ovarian mass of 10 x 10 x 8 cms. whitish with smooth surface	Dysgerminoma	NIL	UL	Unilateral Salpingo-oophorectomy
3.	24	Para 1. Gradually increasing abdominal mass 6 months with pain abdomen	Lobulated ovarian mass of 12 x 10 x 9 cms. encapsulated smooth	Dysgerminoma	NIL	UL	Unilateral Salpingo-oophorectomy
4.	14	Unmarried female, only an occasional episode of abdominal pain, one year duration	Small grayish white tissue piece available	Dysgerminoma	Not Known	UL	Unilateral Salpingo-oophorectomy
5.	30	Para 2. Amenorrhoea 1½ months, heaviness in abdomen 3 months	Left sided 9 x 7 x 7 cms. growth Right sided 12 x 8 x 8 cms. growth soft to firm with cystic areas	Dysgerminoma	NIL	BL	Hysterectomy with Bilateral Salpingo oophorectomy
6.	30	Multipara. Abdominal mass with pain 6 months	Ovarian mass of 10 x 8 x 6 cystic irregular mass, haemorrhagic fluid in peritoneum	Dysgerminoma with massive tissue necrosis and haemorrhage	NIL	UL	Hysterectomy with Bilateral Salpingo oophorectomy

Macroscopically the tumour in most instances was solid except for a degenerative cystic change. Cut surface showed homogenous grayish-pink to yellowish appearance, areas of haemorrhages, and necrosis was also seen. Five tumours of present series were unilateral and 1 showed bilateral involvement of ovaries.

Microscopically, the tumours composed of large cells arranged in bundles and alveoli separated by a net-work of connective tissue infiltrated with lymphocytes, multinucleated tumour cells were also seen.

Discussion

Dysgerminoma is a tumour usually occurring before the age of 20 years and sometimes in early thirties. In the present series the youngest patient was of 14 years and the oldest of 30 years. The tumour is usually unilateral but bilateral involvement of ovary has also been reported in 14.8% of cases (Muller *et al* 1950).

Although the tumour has been considered amongst non-hormone producing tumour, yet its association has been observed with sexual maldevelopment, menstrual abnormalities and pseudohermaphroditism. Cases of precocious sexual development have also been reported with this tumour. Mayer, 1931 reported 27 cases of dysgerminoma associated with pseudohermaphroditism. In our series, however, no case was found associated with such abnormality. However, there is increasing evidence that dysgerminoma occurs in sexually normal females. Pedowitz and Grayzel (1951) and Brody (1961) found this tumour in patients having normal sexual functions.

Dysgerminoma is sometimes seen coexisting with pregnancy (Goyal *et al* 1979) and (Kusum and Souza, 1968).

Regarding the histogenesis of dysgerminomas, Novak and Woodruff (1968) maintain that a neutral germ cell is the best explanation for the usual lesion in male or female. An origin from, or associated with, a teratoma may be noted occasionally (Muller *et al* 1950). An origin of dysgerminoma has been suggested from oocyte also (Hughesdon, 1959).

From clinical stand point, 3 groups of cases of dysgerminoma may be described, (a) those with intact tumour capsule, (b) with massive infiltration of pelvic viscera and (c) with extensive distant metastases are seen. The first group offers good prognosis.

A five years survival rate varies from 27% to 75%. The prognosis depends upon the age, haemorrhagic areas, ascitis and presence of teratoma and choriocarcioma. Wider and O'Leary (1968) reported 5 years survival rate as 60% in younger patients (15-39 years). Prognosis is better in unilateral tumours with intact capsule, the survival rate being 89.7% with unilateral, 29.4% with bilateral tumours and 25.3% with metastases or infiltration to pelvic viscera.

Summary

Six cases of Dysgerminoma of ovary are reported, literature on the subject is reviewed.

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