A STUDY OF OVARIAN ENLARGEMENTS IN ADOLESCENT GIRLS

by

(Mrs.) S. Deshpande,* M.S.

and

P. Badjatiya,** M.S.

Introduction

The incidence of ovarian enlargement varies according to the age of the patient and the histological classification of the neoplasm. Germ cell tumours are predominent in all age groups, accounting for approximately 60% of ovarian neoplasm in children and adolescents. This is in marked contrast to a 20% incidence of similar tumours in the adult.

Any type of ovarian enlargement is rare in infancy, with most being non-neoplastic cysts. Tumours of germ cell and sex cord stromal origin account for 5% and 10% of the ovarian enlargements in infancy.

With advancing age the tumours of sex cord stroma (5 to 10%) and common epithelial origin (25%) increase in frequency perticularly after the onset of menarche.

Following puberty the balance continues to shift towards the preponderance of tumours of common epithetial origin (70% of all ovarian tumours).

An attempt is being made in the present study to correlate the above statement in connection with ovarian enlargements in adolescent age group.

*Reader, Deptt. of Obst. & Gynaecology, MGM Medical College & M. Y. Hospital, Indore.

**R.M.O. Deptt. of Obst. & Gynaecology, M. Y. Hospital, Indore.

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Material and Methods

17 cases of ovarian enlargements in the adolescent girls (12 to 20 yrs. of age) were studied in regard to their incidence, clinical presentation and histopathological appearance.

Observations

Incidence

A review of 10,000 total gynaecological admissions in Maharaja Yeshwantrao Hospital and M.G.M. Medical College, Indore during the period of 5 years (1976 to 1980) revealed that the number of ovarian enlargements surgically treated was 400, i.e. 4% of the total gynaecological admissions. Out of these only 17 cases of ovarian enlargements were recorded in the adolescent age group. Thus giving an incidence of 4.25% of the total ovarian enlargements and only 0.17% of the total admissions.

Clinical Symptoms

Most frequent presenting symptoms were the enlargement of abdomen and pain in the abdomen, Dull pain and stretching of abdomen was complained of by 9 patients. Pain was acute due to torsion of the tumour in 3 cases.

Most of the patients had gradual distension of the abdomen which started several months before seeking medical advice. Rapid growth of the abdominal lump was noticed in 3 patients.

Menstruation was regular in 6 cases. Five patients had primary ammenorrhea, 4 had vaginal bleeding for few days following amenorrhea of 3 to 7 months durations, one patient had polymenorrhagia. All of them were married except two. One patient had one normal delivery and another had two normal deliveries. Hirsutism was present in 1 and 1 had not developed secondary sex characters of either sex (12 yrs. age).

Histopathology of Ovarian Enlargement

Histopathology of the specimens removed by surgery in all the 17 cases revealed the various patterns as shown in Table I.

TABLE I
Histopathological Patterns

Group	Type of Tumours	Total	%	Benign	Malignant
A.	Tumours of common epithelial origin	5	29.41	5	0
B.	Tumours of sex-cord stromal origin	1	5.88	0	1
C.	Tumours of germ cell origin	8	47.04	7	1
D.	Non-neo-plastic enlargements	3	17.64	0	0

A. There were five cases of tumours of common epithelial origin. These patients were between 18-20 years of age, all wer married. One patient had 1 normal delivery. Clinico-pathological analysis of these patients is given in Table II.

Menstrual pattern was normal in 3, polymenorrhoea in 1, and bleeding following amenorrhoea in 1 patient. Cysts were unilateral and of large size in all the cases. Unilateral Salpingo-oophorectomy with cyst removal was done in all the 5 cases.

B. *Tumours of the Sex Cord Stroma Origin:* One patient aged 20 years with primary amenorrhoea, had a large 15x6x6 cms. Unilateral solid, gray, encapsulated, bossed tumour which was adherent with omentum. Unilateral salpingo-ophorectomy with resection of the omental mass was done in this patient. Histopathological diagnosis of Sertoli cell tumour—carcinoid was made. This patient was readmitted for Radiotherapy three months later.

C. *Tumours of Germ Cell Origin:* Solid teratomas were associated with primary ammenorrhoea in all cases. A 12 year old patient of prepubertal age

TABLE II
Tumours of Common Epithelial Origin-Clinicopathological Analysis

Age	M.H.	O.H.	Diagnosis	B/M	Size
18	Sec. Amn.	0	Serous cystadenoma	B	20x14x10 cms.
20	N	0	Serous cystadenoma	B	16x6x4 cms.
18	N	0	Serous cystadenoma	B	27x21x4 cms.
18	Poly	0	Pseudomucinous	B	30x22x13 cms.
20	N	1	Pseudomucinous Papillary	B	25x20x17 cms.

TABLE III
Clinico-Pathological Analysis of Tumours of Germ Cells

Age in years	M.H.	O.H.	Teratoma B/M	Size in cms.
18	Pr. Am.	0	Benign	7x7x5
16	Pr. Am.	0	Malignant	17x5x5
15	Pr. Am.	0	Benign	25x19x11
17	Pr. Am.	0	Benign	5x5x4
12	Pr. Am.	0	Dermoid	13x10x8
20	N	0	„	15x10x8
18	N	0	„	4x7x4
20	N	11	„	22x18x7

who was youngest of this series had a unilateral unilocular dermoid cyst and 1 patient of 20 years had 2 normal deliveries before the removal of the dermoid cyst.

There were 4 cases of solid teratomas and 4 cases were of dermoid cysts (Mature teratomas). These tumours were very large and adherent to the adjacent structures. There was histological evidence of malignancy in 1 case of solid teratoma. Unilateral salpingo-oophorectomy with removal of tumour was performed in all these cases.

D. *Non Neoplastic Enlargements:* The remaining 3 patients had non-neoplastic ovarian enlargements and vaginal bleeding following a period of amenorrhoea. Patient with Stein Leventhal syndrome had bilateral ovarian enlargements, hirsutism and vaginal bleeding following a period of 5 months' ammenorrhoea. Wedge resection of both ovaries was performed.

Discussion

The incidence of ovarian enlargements is low in the younger age group. Seventeen cases of ovarian enlargements in adolescent group have been studied in regard to their symptomatology, histopathology and treatment.

Early recognition and prompt treatment are most important while dealing with ovarian tumours in younger age group. Presence of a pelvic mass, abdominal pain, tenderness, precocious puberty or delayed menarche are important clues suggesting the presence of an ovarian tumour. A vaginal examination under anaesthesia, plain X-ray of abdomen, blood counts and ancillary laboratory aids help in making a differential diagnosis from acute appendicitis and other conditions. The most

TABLE IV
Clinico-Pathological Analysis of Non-Neoplastic Enlargements

Age in years	M.H.	Histopathology	Size in cms.
18	Sec. Amn.	S.L. Syndrome	7x7x7
20	N	Simple ovarian cyst	6x5x3
20	N	Simple ovarian cyst	7x6x25

In the 2 patients who had unilateral simple ovarian cyst (Follicular) Cystectomy was performed.

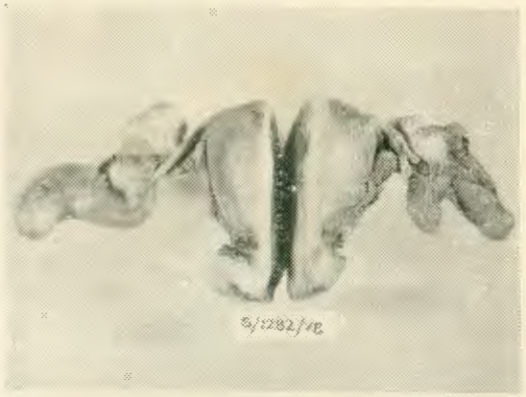

Fig. 1
Uterus (bisected) with normal ovaries. Note the normal looking cornual and fimbrial segment of both tubes. The middle segment of the tubes on both sides show hydrosalpinx.

Fig. 2
Specimens of hydrosalpingectomy. Note one tube has distorted to form horizontal 'S' shape and other tube has distorted to form 'V' shape.

Torsion of the Gravid Uterus in late Pregnancy—Chakrabortti p. 852

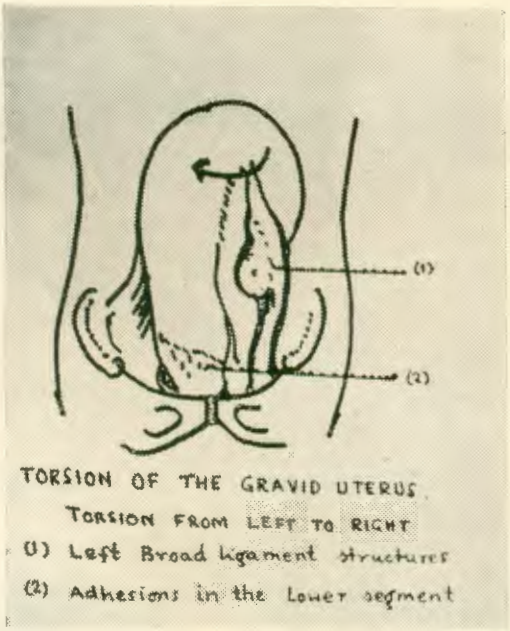

Fig. 1
Figure showing rotation of the uterus (over 90 degrees twist) with left adnexal structures appeared anteriorly.

Dystocia due to Cystic Hygroma—Tayade & Deshpande p. 861

Fig. 1
Showing partially aspirated cystic hygroma.

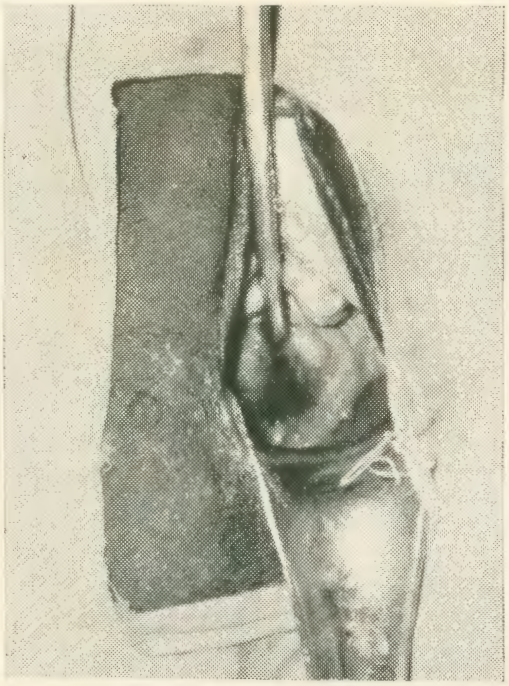

Fig. 1
Showing single external os.

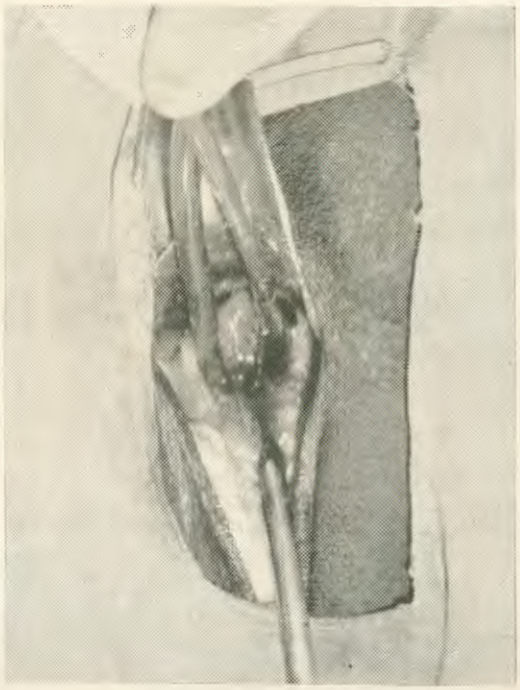

Fig. 2
Showing two dilators in cervical canal.

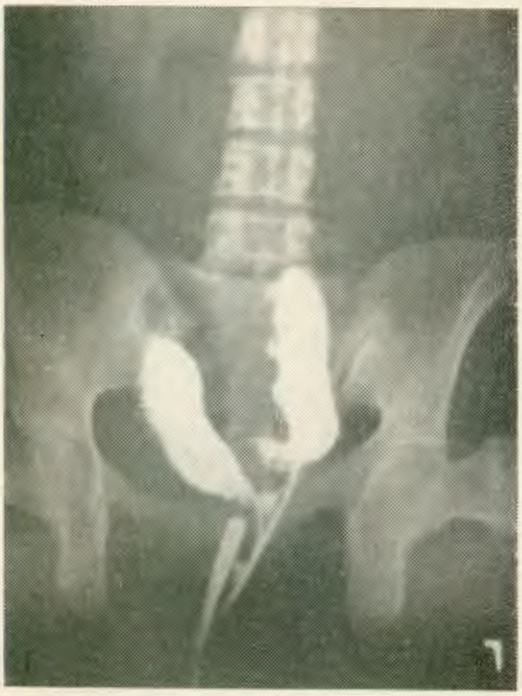

Fig 3
Hysterosalpingography showing double uterus.

Abdomino-vaginal Fistula Following Home Delivery—Gulati pp. 865-866

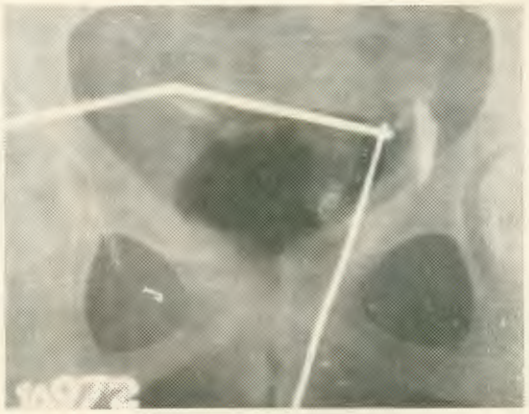

Fig. 1
Skiagram showing abdomino-vaginal fistula. Uterine sound introduced from abdominal end and probe through vaginal end. The two are seen approximately.