OVARIAN CHANGES AFTER TUBAL LIGATION

ASIS KUMAR CHATTERJEE

SUMMARY

Tubal ligation disrupts the continuity of the tube along with accompanying vessels, nerves & Lymphatics, the most noticeable being the Vascular arch created by the terminal branches of ovarian & uterine arteries. Many long term ovarian changes following tubal ligation have been described, including Cortical Stromal Hyperplasia, Follicular Cysts and Ovarian Endometriosis.

In this retrospective study from Durgapur Steel Plant Hospital involving 56 patients who had abdominal hysterectomy with Bilateral Salpingo-oophorectomy (all had tubal ligation previously), The ovarian changes are described & analysed.

The most common ovarian change found was Cystic Ovaries (Less than 6 cm.) (17.8%); other ovarian changes include ovarian cysts (8.9%), Tubo - ovarian cysts (5.3%) and other ovarian tumours like Dermoid, Fibroma, chocolate cyst and fimbrial cyst.

INTRODUCTION

Tubal ligation disrupts the continuity of the tube along with the accompanying vessels, nerves and lymphatics, the most noticable being the Vascular arch created by the terminal branches of uterine & ovarian vessels. Many long term ovarian changes following tubal ligation have been described. These include **Cortical Stromal Hyperplasia, Follicular Cysts and Ovarian Endometriosis** (Purakayastha & Bhattacharya, 1992). Cystic changes in the ovary, which are fairly common, result from the disruption of the terminal branch of uterine artery supplying the ovary (Lu & Chun, 1967, Muldoon, 1972).

In the present paper, a study on the

Dept. of Obst. & Gyn. Durgapur Steel Plant Hospital, Durgapur, West Bengal.

Accepted for Publication on 29.04.1994.

various ovarian changes following tubectomy is presented.

MATERIAL AND METHOD

This is a retrospective study from Durgapur Steel Plant Hospital (West Bengal) Consisting of 56 cases.

Patients (who had had tubal Sterilization done in the past) undergoing abdominal total hysterectomy with bilateral salpingo - oophorectomy were studied for both marco & mirco scopic ovarian changes. Patients were grouped according to (a) Age, (b) Parity, (c) Time elapsed since tubal sterilization and (d) Type of sterilization procedure.

RESULT

Indications for hysterectomy

These were Menorrhagia (DUB) (28 cases, 50%); Fibroid uterus (8 cases, 14.2%); Menorrhagia with fibroid (12 cases, 21.4%). T.O. mass (5 cases 8.9%) and Miscellaneous (Pain abdomen unhealthy Cervix etc) (5 cases, 8.9%).

Ovarian changes recorded were as follows (Vide Table I)

(1) Cystic Ovaries (less than 6 cm) : (a) Solitary Cyst; (b) Multiple Cysts.
(2) Ovarian Cysts (6 cm or more).
(3) Other Ovarian tumours.
(4) Tubo-Ovarian Cysts.

Age Factors (Vide Table II)

(1) Maximum number of patients were from 40-50 years age group.
(2) No clearcut age influence noted.

Parity Factor (Vide Table III)

(1) Maximum patients were from 3rd or 4th Para (p3-p4) group.
(2) Ovarian Changes were recorded more in the less para (p1-p2) group.

Time elapsed since tubal operation (Vide Table IV)

(1) Cystic ovaries are found in increa-

Table I

Ovarian changes found

No.	Ovarian change		Cases	Percentage
1.	Cystic ovaries (< 6 cm)		10	17.8
	i. Single ovary	4		
	ii. Both ovaries	6		
2.	Ovarian cysts (> 6 cm)		5	8.9
3.	Other ovarian tumours		4	7.2
	i. Dermoid	1		
	ii. Fibroma	1		
	iii. Chocolate cyst	1		
	iv. Fimbrial cyst (big)	1		
4.	Tubo - ovarian cyst		3	5.3
	Total		22	39.2

sing numbers as the time elapsed since tubal ligation increases.

(2) For ovarian cysts or other abnormal findings, no clear cut relation observed.

Type of operation (Vide Table V & VI)

(1) Minilap Pomeroy tubectomy was the most commonly adopted technique (in 92.8% of cases).

Table II

Age Factor

No.	Age Group	Total Cases	Ovarian Changes found
1.	Less than 35 yrs	8 (14.3%)	4 (18.2%)
2.	35 - 40 yrs	15 (26.8%)	16 (27.3%)
3.	40 - 50 yrs	28 (50%)	11 (50%)
4.	More than 50 yrs	5 (8.9%)	1 (4.5%)

Table III

Parity Factor

No.	Parity	Total Cases	Ovarian Changes
1.	P1 & P2	12 (21.4%)	7 (31.8%)
2.	P3 & P4	29 (51.8%)	10 (45.5%)
3.	P5 & above	15 (26.8%)	5 (22.7%)
	Total	56 (100.0%)	22 (100.0%)

Table IV

Ovarian changes & time elapsed since tubal ligation

No.	Ovarian changes	Time elapsed since tubectomy		
		Less than 5 yrs	5-10 yrs	More than 10 yrs
1.	Cystic ovaries (6 cm)	1	3	6
2.	Ovarian cyst (6 cm)	2	1	4
3.	Other ovarian tumours	Nil	1	2
4.	Tubo-ovarian cysts	2	Nil	1
	Total	5 (22.7%)	5 (22.7%)	12 (54.6%)

Total = 22 (100.0%)

Table V

Types of operation performed

Operation	Cases	% age
Puerperal Minilap	26	46.4
Interval Minilap	18	32.3
Interval Laparoscopic	2	3.5
Post-MTP Minilap	6	10.8
Post-MTP Laparoscopic	2	3.5
During C.S.	2	3.5
Total	56	100.00

than 6 cm).

(2) Cystic ovarian changes are found in increasing frequency as the time elapsed since tubal Ligation increase.

(3) Ovarian changes are encountered more in the less para (p1 & p2) group.

(4) Cystic ovarian changes are most frequently after interval minimal tubectomy, followed by puerperal minilap, tubectomy.

(5) No clear cut influence of patients' age on ovarian changes are found.

Table VI

Type of operation and ovarian changes

No.	Ovarian changes	Type of operation			
		Puerperal Minilap	Interval Minilap	Laparo Scopic	C.S.
1.	Cystic ovaries	4(18.8%)	6(27.2%)	1(4.6%)	Nil
2.	Ovarian cysts	2(9.4%)	2(9.4%)	Nil	Nil
3.	Other ovarian tumours	3(13.6%)	1(4.6%)	Nil	Nil
4.	T.O. cysts	Nil	1(4.6%)	1(4.6%)	1(4.6%)

Total cases found = 22

(2) Majority (46.4%) were Pureperal Ligation.

(3) Cystic ovarian changes were most frequent after interval minilap group, followed by the puerperal minilap group.

(4) 2 out of ulaparoscopic sterilization cases were associated with some ovarian pathology.

INFERENCES

(1) The most common ovarian change following tubal ligation noted in the present study is cystic ovaries (less

CONCLUSION

Long term effects of tubal ligations are well recognized (Te Linde, 1985). Some specific ovarian changes after tubal sterilization are noted by many authors.

The present study deals with this particular subject and provides some interesting findings.

ACKNOWLEDGEMENT

In sincerely thank Dr.(Mrs.) A. Dutta Chowdhury, Senior consultant & Head, G&O Deptt, DSP Hospital & Dr. M. K. Goswami, Director (Medical & Health

Services, D.S.P.) for their encouragement & kind permission to use hospital records & publish this paper.

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