

FERTILITY STATUS FOLLOWING EXTRAUTERINE GESTATION

by

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Foetal loss is a major public health problem with a paucity of knowledge about early foetal loss both in ectopic pregnancies and spontaneous abortions. Again, there is difference of opinion about the chances of future fertility following an ectopic pregnancy. Gioanni and Wirtz (1949) after analysis of 462 cases of ectopic pregnancy reported only 15% of normal pregnancies, 7% of abortions and 9% of repeat ectopic pregnancies. Tompkins (1956) advocated conservative surgery for ectopic pregnancy. Bender (1956) reported the follow-up results of 264 cases of ectopic pregnancy and found that 44% conceived and 38% had live babies, 5% had abortion only and 7% a further ectopic. It was claimed by him that successful pregnancy ensues if the tube and ovary are both removed as ovulation will then occur in the ovary on the side of the healthy tube. Same opinion had been expressed by Jeffcoate (1955) and Green Armytage (1959) also supported it. According to Greenhill (1959) "it is justifiable to try to retain a gravid tube by removing the ovum when it is the only tube the patient has and she also desires a child.

Achari and Prasad (1968) from analysis of 46 cases of ectopic pregnancy observed that 80% of the multiparous women and 50% of uniparous or multiparous patients remained sterile following

an ectopic pregnancy. Recurrence of ectopic in their series was found to be 10%.

The present analysis has been undertaken with a view to find out the incidence of fertility and sterility in the post-ectopic period in a study of 412 ectopics over a period of 14 years (From Jan. 1956 to Dec. 1970) in the Dept. of Obst. and Gynec., of N.R.S. Medical College Hospital, Calcutta.

Material and Methods

The details of the cases are as follows. Total cases—412:

- (1) Tubal—398 (96.2%) of which (a) Single Tubal—362 (87.86%). (b) Repeat tubal—16 (3.88%). (c) Co-existent intra-uterine + tubal — 9 (2.19%). (d) Angular (interstitial type)—11 (2.66%).
- (2) Secondary Abdominal — 11 (2.66%).
- (3) Broad ligament pregnancy — 2 (0.48%).
- (4) Ovarian pregnancy —1 (0.24%).

Among these cases, future pregnancy was possible in 298 patients. These cases have been divided into three groups. In the first group of 285 cases, unilateral salpingectomy (or salpingo-oophorectomy) was performed on the affected side, with healthy tube on the contralateral side. In the second group of 12 cases, along with salpingectomy or salpingo-oophorectomy on the ipsilateral side, salpingostomy was performed on the other tube. In third group there was 1 case of secondary abdominal pregnancy,

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both tubes were preserved as they appeared to be healthy.

During the period of survey, Follow up study was possible only in 41.6% of cases, i.e. 124 cases out of 298.

pregnancy was found to be twenty-five times more common in patients who had been treated for blocked tubes by high pressure insufflation.

Parity:—In primary infertility group

TABLE I
Distribution of Age of patients showing Fertility and Sterility
Total No. of Patients followed up = 124.

	Age—in years		Number	Percentage
No. of patients with intra-uterine pregnancy 22(17.7%)	15—25	(15—20 —	6)	27.2)
		(21—25 —	10)	45.4) =72.6
		26—30 —	5	22.7
		31—35 —	1	4.5
		Above 35 —	Nil	Nil
No. of patients remaining sterile (excluding repeat ectopic) 90 (9.58%)	21—30	15—20 —	2	16.6
		(21—25 —	3)	25.0) =60.8
		(26—30 —	5)	41.8)
		31—35 —	2	16.6
		Above 35 —	Nil	Nil
No. of patients remaining sterile (excluding repeat ectopics) 90 (9.58%)	26—35	15—20 —	2	2.2
		21—25 —	5	5.5
		(26—30 —	46)	51.1) = 86.6
		(31—35 —	32)	35.5)
		36—40 —	5	4.4

Patients of younger age group (15-25 years) conceived normally following an ectopic pregnancy, this age group constitutes 72.6%.

The women in the age group between 21 years to 30 years are more susceptible to a repeat ectopic pregnancy constituting 66.8% of cases.

The maximum number of patients falling in the age group 26-35 years were sterile. In the follow up study past-history of pelvic inflammation previous to the development of extra-uterine pregnancy was elicited in this age group in 32.3% of cases. The rest of the cases might be due to the functional disturbance of the propelling mechanism of the tubes from neuroendocrine imbalance, as suggested by Asherman in 1957. Again, ectopic

(Para 0 + 1) i.e. in whom first pregnancy was ectopic tubal pregnancy, only 5 had normal intra-uterine pregnancy following ectopic out of 22 intra-uterine pregnancies. But the remaining 17 cases (i.e. 78.5%) of intra-uterine pregnancies following ectopic belonged to para 1 to para 10 group. These patients gave history of relative sterility of 3 years or more (upto maximum 18 years) prior to the development of ectopic gestation.

The rate of conception following ectopic pregnancy in primary and secondary sterility.

In 2 cases out of total 12 patients in repeat ectopic group in one case, there was a history of pulmonary tuberculosis and evidence of tuberculous salpingitis in the affected tube was found in the other case. The last patient had repeat ectopic

TABLE II
Conception Following Ectopic Pregnancy in Primary and Secondary Sterility

Total No. of cases	Primary sterility		Sec. sterility	
	No. of cases	Percentage	No. of cases	Percentage
	(A) Intra Uterine Pregnancy			
22	5	21.5%	17	78.5%
	(B) Repeat Ectopic Pregnancy			
12	9	80%	3	20%
	(C) No. of patients who remained sterile			
90	60	66.7%	30	33.3%

(tubal) pregnancy, inspite of being treated with anti-tubercular drugs.

But in none of these two cases, tuberculous endometritis was detected on endometrial biopsy.

Achari and Prasad (1968) showed that future conception in primary sterility group was only possible in 20% and in secondary sterility group in 50% of cases. In the present series, intrauterine pregnancy occurred in 21.5% in primary infertile patients and in 78.5% in secondary sterility group of cases. But in those remaining infertile following an ectopic 66.6% were cases of primary infertility group and 33.3% of secondary sterility. In the series of Achari and Prasad (1968) the incidence of future infertility was 80% in primary sterility group and 50% in secondary sterility cases.

Type of Ectopic and Subsequent Fertility

The relationship between the types of ectopic and future outcome as regards fertility and sterility, there were some significant findings though the findings in this study did not corroborate with the findings of Achari and Prasad, (1968). In the present series the future outcome of normal intrauterine deliveries was maximum (13 out of 22) in tubal rupture (including acute isthmal and ampullary rupture) cases.

The highest number of infertility cases following an ectopic was in patients with large old pelvic haematocele and this might be due adhesions causing distortion and kinking of the fallopian tubes with subsequent peri-salpingitis and blocked tubes.

TABLE III
Relationship of the Type of Ectopic to Future Fertility

Types of ectopls	Intrauterine preg. (22 cases)	Repeat ectopics (12 cases)	Sterility (90 cases)
Pelvic haematocele	Nil	4 (33.3%)	72 (80%)
Tubal abortion	4 (18.1%)	6 (50%)	10 (11.1%)
Tubal rupture	13 (59.0%)	2 (16.6%)	2 (2.2%)
Tubal mole	5 (22.7%)	Nil (0%)	6 (6.6%)
	22 cases	12 cases	90 cases

Repeat ectopic cases were detected to be more common in cases with tubal abortion (50%). It was 9.6% of the whole series and intrauterine term pregnancies were 17.74%. No case of abortion was noted in the present series.

Discussion

It is commonly accepted that the fertility of a woman is definitely diminished following an ectopic (Apajalahti, 1932; Mayo and Strassman, 1938). Again, according to some authors, (Bender, 1956), there is 50 times more chance of a repeat ectopic in these patients.

In Achari and Prasad's series (1968) the recurrence rate was found to be only 4.3% and full term normal deliveries resulted in the remaining 95.7% of cases. In their cases 85% of patients who had intrauterine term deliveries were of younger age group, same thing was noted in the present series i.e. 72.6% of younger age group patients gave birth to viable babies.

Raux and Marchal (1960) noted that the incidence of future infertility was maximum (91.5%) in patients in whom the first pregnancy was an ectopic. In Achari and Prasad's series (1968) too, 80% patients remained infertile in whom the first pregnancy was an ectopic. In the present study, 66.7% patients attended infertility clinics in the follow up period, where first pregnancy was an ectopic pregnancy.

The majority of cases of acute tubal rupture conceived (about 60%) subsequently and delivered normally at term. But, future infertility resulted mostly in cases of old pelvic haematocele (80%).

Summary and Conclusion

1. One Hundred and Twenty-four cases out of 298 cases where future preg-

nancy was possible could be followed up in the post-ectopic period to determine the future status as regards fertility and infertility.

2. Twenty-two cases (17.7%) conceived normally had delivered at term, 12 cases had repeat ectopic pregnancy (9.6%) and 90 (72.58%) patients remained sterile as noted within the period of survey of 14 years.

3. Repeat ectopic and future infertility were found to be more common in group of patients between 26-35 years. Intrauterine pregnancy was more usual in younger age group (15-25 years).

4. The frequency of intrauterine pregnancy was more common in cases who had acute tubal ruptures and secondary sterility was more common in old pelvic haematocele cases.

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