

UTERINE PREGNANCY FOLLOWING TUBAL STERILISATION

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Female sterilisation is currently widely accepted in both developing and developed countries for permanently limiting child births. Female sterilisation by tubectomy came up in the National Family Planning Programme in India since 1956. In 1974-1975, over 0.7 million women accepted tubectomy in India and the cumulative figure since 1956 till 1974-1975 for tubectomy to over 4 million.

In the early part of this century Pomeroy advocated the Pomeroy method by excising a portion of the tube. Lull and Mitchell (1950) reported their results of failure by Pomeroy technique to be 0.25% (uncorrected figure). This failure invited further modifications like total salpingectomy, peritonisation of the cut ends of the tubes, cornual resection, etc.

Considering this perspective, an attempt is here made to see the failure rate in a mass sterilisation programme where the operations have been performed through different routes by different techniques and by different surgeons.

We are presenting the known 11 cases of uterine pregnancy out of 7,548 sterilisations done during the period of 1973-76 in Eden Hospital.

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Accepted for publication 24-4-1978.

Discussion

During the period of 1973-76 in Eden Hospital 11 cases of uterine pregnancy have been recorded amongst 7548 cases of tubal sterilisation.

Garb (1957) reported the failure rate to be 0.71% amongst 29496 cases.

Mitchel and Lull (1950) showed failure after Pomeroy's method of only 0.12% (corrected figure), 0.25% (uncorrected figure) amongst 1550 cases.

Thomas (1953) found failure rate of 0.5% amongst 35,000 tubal sterilisation.

Fietze (1960) found 34 failures in 20,000 sterilisation based on 10 major studies from 3 continents.

TABLE I
Total Number of Ligation With Failure

	Total	Failure
Abdominal ligation	6841	4
Vaginal ligation	707	7

From Table I it seems that failure rate is more in vaginal ligation than by abdominal route.

TABLE II
Failures Following Vaginal Ligation

	Total Number	Failure
Interval	411	5
Concurrent	296	2

CASE REPORTS:

Sl. No.	Pt's initials	Date of opn.	Type and Route of previous opn.	Interval of failure	Operative findings
1.	Mrs. N. P. Age—30 yrs. (P4+0)	11.4.76	D. and E. \bar{c} vaginal lig.	2 years	S/E and abd. ligation done No sign of operation on right tube, but there was breach of continuity in left side.
2.	Sm. B. M. Age—32 yrs. (P3+1)	Pt. Left \bar{c} - out opera- tion	D/E and abd. ligation	1 year	—
3.	Sm. T. M. Age—23 yrs. (P3+0)	15.6.76	Puerperal sterilisation	1 yr. 2 month	Hysterotomy and ligation done. Hydrosalpinx in the distal part of rt. tube and discontinuity in the mid part of left round ligament. Left tube healthy.
4.	Sm. S. D. Age—25 yrs. (P4+0)	3.5.77	Culdoscopic ligation	3 yrs 6 mths.	Hysterotomy and ligation done. Continuity of the left tube was found and adhesions were found on rt. side.
5.	Sm. N. S. Age—26 yrs. (P3+0)	10.3.77	Hysterotomy \bar{c} ligation	8 months	Laparotomy done. Uterus bicornis unicornis was found with the left tube intact.
6.	Sm. N. S. Age—35 yrs. (P2+0)	23-12.76	Vaginal ligation	2 years	Hysterotomy and ligation done uterus was R.V. and there was much adhesion with the tubes and the patency or continuity of the tube could not be detected.
7.	Sm. S. G. Age—26 yrs. (P3+0)	Could not be traced later on	Hysterotomy and ligation	10 mths.	—
8.	Sm. S. P. Age—25 yrs. (P3+0)	9.7.76	Interval vaginal ligation	2 years	S/E and abd. ligation done. Adhesion with ovary and narrowing of the central part of the both tubes were present.
9.	Sm. T. M. Age—35 yrs. (P4+0)	Did not turn up for ope- ration	S/E. and Vaginal ligation	2½ years	—
10.	Sm. A. L. Age—24 years (P3+0)	13.5.77	Vaginal ligation	3½ years	Hysterotomy and ligation done. Clip were found on both the tubes.
11.	Sm. A. P. Age—33 years (P4+0)	19.6.77	Vaginal ligation	6 years 5 months	Right tube was found normal and there was no evidence of operation there. Left tube shows narrowing in the central part and there was adhesion with the ovary.

From Table II it seems that failure rate is more after interval ligation than concurrent cases by vaginal route.

TABLE III
Failures Following Abdominal Sterilisation

Types	Total Number	Failures
C.S.	701	Nil
Hysterotomy	1940	2
Post saline, post prostaglandin	627	Nil
S.E. & D.E.	898	1
Interval ligation	1570	Nil
Puerperal ligation	1505	1

From Table III it seems that failure rate is more after concurrent sterilisation.

Five cases had interval sterilisation (45.5%) and remaining 6 cases had concurrent and puerperal sterilisation (54.5%).

It also seems from Table III that sterilisation with C.S. and interval ligations by abdominal route are quite safe (failure Nil).

Prystowsky and Eastman (1955) analysed 1830 Pomery's sterilisations; the failure rate was 1:57 where sterilisation was performed along with C.S., but it was only 1:340 when done in puerperium shortly after vaginal delivery. Similar figures have been reported by Lee, *et al* (1951) using Madlener's technique.

Husbands, Pritchard and Pritchard (1970) have been unable to substantiate this increased rate of failure of the operation associated with C.S. One curious aspect of failures of tubal sterilisation is the occasional long interval that may supervene between the operation and conception.

Of these 11 cases, earliest failure occurred within 1 year and latest within 7 years. Four cases reported within 1 year, of which 3 were puerperal or postabortal.

Another 4 cases reported within 2 years of which 2 had concurrent sterilisation. One concurrent case came after 2 years. Another interval sterilisation case reported after 3 years and the 1 reported after 6 years.

This shows that early failures are more common with concurrent sterilisation.

Hellman *et al* (1971) states that in one of his cases the interval was 7½ years, in another over 4 years and in 3 others more than 3 years.

Most patients with failed tubal ligation return pregnant within 18 months. So also the finding in our group, 8 cases out of 11, reported within 2 years.

Probable Causes of Failures

(i) In cases 1, 4 and 9 presence of continuity of one or other tube showed possibly the tubes were not excised or excised partially keeping the inferior wall of the tube intact when done vaginally.

(ii) In case 3 instead of left tube, the left round ligament was found to have been excised. Mini-laparotomy incision or improper identification of the tube might be the cause of the failure following puerperal sterilisation.

(iii) Congenital abnormalities like bicornuate unicollis also is a possibility to be kept in mind when one tube was found missing during the operation taking it to be an unicornuate uterus (Case 5).

(iv) Too many adhesions with the tubes with ovary and intestine following vaginal ligation, made the case inexplicable (Case 6).

(v) Bilateral central narrowing of both tubes shows that probably subperitoneal passage formation in between the two narrow ends or improper or no severage of the tubes kept the patency intact and hence the failure (Cases 11, 8).

(vi) In case 10 presence of clips on

both tubes probably caused improper occlusion of the lumen of the tubes.

It may be noted that out of 11 cases of failure—8 cases could be followed up by laparotomy. Of these 8, as many as 5 have either no excision of tubes of incomplete excision of tubes. This may be considered to be preventable with greater care and accuracy.

Conclusion

Tubal sterilisation has been taken very casually now-a-days. But to make it a total success, meticulous care should be taken for proper identification of the tubes upto the fimbrial ends. By and large in a mass sterilisation programme the abdominal route is preferable to the vaginal route as found by the increased rate of failures with vaginal ligations. An adequate amount of the tube should also be excised. Interval ligations seem to be more effective than concurrent or puerperal sterilisation. In case of any uterine abnormality as uterus unicornis unicollis a thorough search should be made for the other half of uterus and tube.

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