

OUR EXPERIENCE WITH LAMINARIA TENT IN MEDICAL TERMINATION OF PREGNANCY (ANALYSIS OF 907 CASES)

by

V. NALINI,* M.S., D.G.O.
SATHYAKUMARI,** M.B.,B.S., D.G.O.
N. VIJAYA KUMAR,*** M.B.,B.S.

and

DHANALAXMI,**** M.B.,B.S.

In recent years, the role of laminaria tents (LT) has been well established as an aid to M.T.P. Our aim is to study its advantages and disadvantages by analysing 907 cases, where LT was inserted for slow and steady cervical dilatation. We have compared our series to other authors who have reported on the use of LT favourably for dilatation and evacuation, especially in midtrimester abortion. Dhar (1977), Niswander, (1973), Rajan *et al* (1977), Palaniappan (1979).

Materials and Methods

During the period between December 1976 to March 1980, patients requesting MTP were chosen for LT insertion specifically according to the parity, history of long period of infertility, size of uterus and the nature of cervix i.e. whether hypertrophied, elongated, firm, fibrosed, thick or with pin hole external os etc. According to the patulous nature of the cervix, one or two small, medium or

large size sterile LT were inserted either 3 hours or 24 hours prior to operation under the coverage of antibiotics. Later LT were removed. Suction evacuation was done. Depending upon the request of the patient either SE along or concurrent CuT, or TAT was undertaken. Patients were discharged 4 hours after following SE or 6 days following tubectomy. Patients were followed up every month for 3 months.

Observation

Total number of MTP done during the above period was 5630. LT insertion were done in 907 cases forming 18% of total cases.

Age: 76% belonged to 21-30 years of age group. Youngest was 15 years and oldest 46 years.

Parity: 78% belonged to the group of 2-4 living children. 2.3% belonged to nulliparous, unmarried group.

Gestational Size: 90.9% belonged to first trimester. 9.1% in second trimester (13-18 weeks).

Duration of LT: 27.5% belonged to short duration (3 hours) and 72.5% belonged to long duration (24 hours) LT group. Short duration LT was found to be equally effective as compared to the

* Associate Professor in Obst. Gynaec.

** Assistant Surgeon,

*** House Surgeon,

**** Senior House Surgeon,

F. P. Department, Kilpauk Medical College,
Madras-600 010.

Accepted for publication on 2-10-80.

long duration LT for initiating atraumatic cervical dilatation.

In 83 cases, belonging to II Trimester group, LT were used for cervical dilatation followed by evacuation with ovum forceps which resulted in successful outcome thereby reducing the number of hysterotomy during 1979-80 in our Hospital. (Rajan *et al* 1980).

All complications were found to be decreased with LT dilatation. But there was a marginal increase in pelvic infection in SE after LT insertion.

In our series, morbidity was found to be definitely increased with hysterotomy.

Failed Cases: (8.4%). In the II trimester group, 7 out of 83 cases of failure were encountered due to impaction, incarceration, fragmentation and retention of pieces of L.T. This needed laparotomy

and hysterotomy and removal of LT in 5 cases along with tubectomy, 1 case hysterotomy alone was done as the patient was not willing for tubectomy. One ended in total hysterectomy as the LT could not be removed even by hysterotomy as it was found to be incarcerated forming a false passage and was deeply penetrating the myometrium just above the internal os.

Discussion

Generally the main problem encountered during termination of pregnancy is cervical dilatation. LT has been used in preventing the unnecessary forcible dilatation of cervix by instrument. Forcible, rapid dilatation may result in future complications like cervical incompetence,

TABLE I
Mode of Evacuation and Post Termination Contraception

Mode of Evacuation and Post Termination contraception	With L.T.		without L.T.	
	No. of patients	Percentage	No. of patients	Percentage
SE along	120	13.2	291	6.1
SE with IUD	308	33.9	496	10.5
SE with TAT	472	52.0	2983	63.0
Hysterotomy with TAT	7	0.7	960	20.4

TABLE II
Complications in I-Trimester

Complications	Without LT our series		With LT our series		Rajan et al (1977)
	No. of patients	Percentage	No. of patients	Percentage	Percentage
Retained products	6	0.6	33	4.0	2.5
Pregnancy continuing	3	0.3	5	0.5	0.5
Uterine perforation	1	0.1	7	0.7	0.2
Pelvic infection	6	0.6	3	0.3	1.2
Post abortal bleeding	8	0.8	19	2.0	
Cervical spasm	0	0	4	0.4	
Mortality	0	0	0	0	

TABLE III
Complications in II Trimester

Complications	with LT		Hysterotomy	
	No. of patients	Percentage	No. of patients	Percentage
Retained products.	2	0.2	..	..
Pelvic infection	1	0.1	6	0.6
Impacted LT	7	0.7	..	..
Uterine perforation	2	0.2	..	..
Hemorrhage	2	..	12	1
Wound sepsis	..	..	42	5
Painful scar	..	..	1	0.1
Incisional hernia	..	..	4	0.4
Scar endometriosis	..	..	5	0.5
Mortality	..	..	1	0.1

(cardiac arrest)

repeated abortions and repeated premature deliveries. In our experience, LT introduction for only 3 hours (Palaniappan 1979) has given us the crucial preliminary dilatation of 1 cm at the internal os, which was found to be extremely useful in overcoming the initial resistance for further dilatation.

Our complications were compared to Rajan series (1977). Pelvic infection with foul smelling discharge was found to be minimal in our series. We have also attempted to reuse the LT after carefully selecting the LTs which were without distortion, cleansing them with spirit and drying them and again resterilised by keeping them soaked in ethicon fluid for 7 days. Reuse of LT twice or thrice repeatedly has not been found to increase the incidence of either foul smelling discharge or pelvic infection. In our series, in about 300 cases, LT were reused and complications were found to be almost nil. Reuse of LT has helped us to reduce the prohibitive cost of LTs. This is an important consideration while providing termination of pregnancy services to large number of patients.

When compared to abdominal hysterotomy, dilatation with LT and evacuation was found to be easier, less of haemorrhage, less of trauma, shock and smaller abdominal incisions for TAT. Hospital stay was found to be minimised. Thus long term complications like scar endometriosis and adhesions were avoided.

Strauss *et al* (1979) reported migration, incarceration and fragmentation of LT. In our series also incarceration, fragmentation of LT has been found in 7 cases and prompt treatment were undertaken. The type of cases which gave problem to us were due to the improper selection of cases, introducing LT well beyond the internal os, stenosed cervix which grips the LT midway giving rise to difficulty in removal necessitating removal either piece-meal or by hysterotomy. It was found long duration LT also contributed to the complications.

Conclusion

Use of LT has been found to favour effective, safe, adequate preliminary valuable dilatation as demonstrated in our

series in both I and II trimester abortions. Complications were minimal. Borderline cases (13-18 weeks) can also be tackled by vaginal evacuation, thereby avoiding hysterotomy. Rare hazards like incarceration has to be borne in mind and should be treated promptly.

Acknowledgment

Our grateful thanks to Dr. K. Arumugham, M.D., Dean, Kilpauk Medical College Hospital, Madras for allowing us to publish this paper.

References

1. Dhar, G., Khanam Wazira, Machroo S. and Jamila, B. J.: *Obstet. Gynaec. India*, 27: 292, 1977.
2. Niswander, K. R.: *Calif. Med. J.* 119: 1973.
3. Palaniappan, B.: *Personal Communication*, 1980.
4. Rajan, R. and Nair, M. S.: *J. Obstet. Gynaec. India*. 27: 514, 1977.
5. Rajan, R., Usha, K. R. and Ambika Devi, K. 1: *J. Obstet. Gynaec. India*. 30: 254, 1980.
6. Strauss, J. H., Wilson, M., Caldwell, D., Otterson, W. and Martin, A. O.: *Am. J. Obstet Gynec.* 134: 260, 1970.