

CRYOSURGERY IN OBSTETRIC & GYNAECOLOGY

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SUMMARY

A series of 1200 patients with varied conditions like cervical pathology from cervical erosion to frank cervical malignancy, vulval and vaginal condylomas, granulation tissue at the vault of the vagina and episiotomy wound and new indications like endometriosis and umbilical granuloma in infants were subjected to cryosurgery as therapeutic modality. Results were favourable and sufficiently encouraging to extent its routine use in gynaecology for above conditions, more so, at the teaching institution. Results are discussed in detail to crystallise its place.

Cryosurgery has been applied to many fields in medicine ranging from cataract to prostatectomy and neurosurgery.

Relatively, it is a recent innovation in gynaecology. Cryosurgery can be used in the diseases of the vulva, vagina, cervix and endometrium which are easily accessible.

Methods and Material

A total of 1200 patients amenable to cryosurgical therapy were randomly selected for varied indications from gynaecological out-patient department of K.E.M. Hospital, Bombay, and author's private clinic from August 1973 to February 1988.

Indications

In present series, it was used for different lesions like cervical erosion, cervical dysplasia, endocervical polyp, invasive carcinoma of cervix, vulval warts and granulation tissue on the vault of vagina and episiotomy wound (Table-I)

Totally, new indications which are included in this series are endometriosis and the umbilical granuloma in the new born.

Eight hundred forty eight patients were treated for benign cervical lesions other than polyp and dysplasia as in table out of which 660 patients were available for follow up examination. Five hundred sixty eight cervixes had completely healed while 92 had failed to do so, giving 86% success. Dysplasia: out of 40 followed, 4 each of moderate and mild type persisted

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TABLE - I

Type of lesion	Total No. of cases	No. of cases available for follow-up	Cured	Failed*	Success rate in percentage	
Cervical erosion	432					
Endocervicitis	80	848	660	568	92	86%
Cervical erosion+ Endocervicitis	336					
Cervical dysplasia	50		40	32	-	80%
Endocervical polyp (size less than 3 cms)	42		30	30	-	100%
Granulation tissue at vaginal vault	52		40	40	-	100%
Vulval warts	130		98	84	14	85.7%
Endometriosis	15		15	13	1	86%
Umbilical	50		44	44	-	100%
Granulation tissue on episiotomy wound	5		5	5	-	100%
Carcinoma cervix	8**		8	-	-	-
Total	1200		933	816	98	

* Does include partially cured

** Here cryotherapy was given to arrest bleeding and debulk for subsequent curative treatment.

after cryosurgery. They were subjected to repeat cryosurgery. Out of 6 available for follow up, 5 were cured, while in 1 mild dysplasia persisted.

Cervices following cryocauterisation for small polyps, 0.5 cm to 3 cms size, showed complete disappearance of polyp. In 8 patients with cervical carcinoma, cryosurgery was applied to reduce profuse bleeding and debulk the large size of growth. This permitted subsequent surgery. Thus, therapy was given to help curative treatment.

Cryo Vs Electrocautery: Cryocauterisation was compared with electrocauterisation by Ostergard et al (1969) and later Sheth (1983). Two hundred women with

cervical erosions, symptomatic chronic cervicitis were randomly selected for comparative study.

Electrocauterisation for the lesion on anterior lip of cervix immediately followed by cryocauterisation of the lesion on the posterior lip of same cervix was done. Out of 100 treated, 72 were available for follow up study as shown in Table - II. Success rate with electrocauterisation was 61% in contrast to 77% with cryocauterisation. Sixty positively preferred cryosurgery while only 8 were opposed to it. Complications were less with cryosurgery when compared with electro-cauterisation.

Vulva: Condylomata Accuminata: Favourable reports of Ostergard and

TABLE - II
CRYOSURGERY VS ELECTROCAUTERY

Site	Followed up	Healed	Unsatisfactory	Not healed.	Patients preferred
Anterior lip (EC) 100	72	44 (61%)	4(5.5%)	24 (29%)	8 (EC)
Posterior lip (Cryo)100	72	56 (77.8%)	4(5.5%)	12(16.6%)	60(Cryo)

TABLE - III
CONDYLOMA ACCUMINATA

No. of warts	No. of patients	Size of warts	No. of patients	Results	No. of patients
1 - 4	88	Less than 1 cm.	1	Perfectly healed	84
5 - 10	40	1-3 cms.	98	Deficient healing	5
11 or more	2	3.1-5 cms.	22	Increased in size	3
				No effects	6
					98

Townsend (1969) on 17 cases of vulval condyloma was examined by Sheth (1983) to further this study which now includes 130 women with condyloma with success rate of 85.7% (Table - III). Out of these 130, 12 had additional vaginal condylomata.

Condylomas completely disappeared in 84 out of 98 followed out of 130 patients*. In 5 women, healing was deficient, i.e. warts of 4 cms size did not disappear but got reduced to 2 cms size. In 6, cryotherapy had no effect whatsoever and surprisingly 3 warts grew to larger size after therapy. It is felt that warts are in phase of increase in size and new ones keep appearing, which may account for increase despite treatment. Therefore,

* In two, vagina was full of condylomata at 36 weeks of pregnancy. Twelve had additional vaginal condylomata which needed general anaesthesia for cryo application. Vagina returned to normal with uneventful delivery. Totally, 14 patients with condylomata were pregnant.

waiting is worth to ensure no further growth appears. Five out of these 14 failures were re-treated with cryotherapy which resulted in complete disappearance and restoration of normal vulval appearance in 3. Cryotherapy thus failed in 14 out of 98, while 32 were lost to follow up. Following advantages make cryosurgery favourable for condylomata accuminata:-

(1) No anaesthesia, (2) outdoor procedure, (3) less chance of recurrence, (4) all lesions can be tackled at the same sitting, (5) no pain is experienced during the procedure, as cold is anesthetic, (6) less post-operative complaints, (7) exact extent of the treated areas is well defined by the margin of ice ball.

Endometriosis: The experimental work was grouped as —

1. Endometriosis on rectovaginal septum treated vaginally,

2. Tiny nodules on the uterosacral ligament treated endoscopically which at times forces the surgeon to open the abdomen for its excision,
3. Endometriotic nodule on rectus sheath.

As the first author was using cryosurgery extensively for known indications, he extended its use as an experiment for treating endometriotic islets or nodules giving favourable results in earlier 2 cases with endometriosis on rectovaginal septum (Table - IV).

TABLE - IV
CRYOSURGERY FOR ENDOMETRIOSIS

Endometriosis	No.	Treated	Results		
			Cured	Partial	Failure
Rectovaginal Septum	4	Vaginally	3	-	1
Uterosacral ligament	8	Laparoscopically	6	2	-
Abdominal wall (Rectus sheath)	3	Incision & direct application	3	-	-
Total	15		12	2	1

Islet nodule disappeared in 12 patients after cryosurgery. There was a total subjective and objective relief. All four approached vaginally for endometriosis on rectovaginal septum were cured while 8 treated by a specially designed cryogun through a laparoscope for small islets of 0.5 to 2.0 cms in size gave subjective and objective relief in 6 and partial relief in 2. Second look laparoscopy in all 8 patients after 8 to 12 weeks revealed 2 with residual active areas of endometriosis and 6 without any lesion. Diagnosis was confirmed by histo-pathological examination of biopsy tissue. Favourable results should trigger the field workers to extend this

work on a larger scale. There were no major complications.

Granulation tissue:

1. *Vaginal vault:* Gratifying results were obtained in the treatment of granulation tissue at the vault of vagina in 52 patients after hysterectomy and episiotomy in 5. Follow up at 4 weeks in 40 showed normal vault, and in 5 normal episiotomy scar free of granulation tissue in all.

2. *Experiment - Umbilical granuloma in infants:* Fifty infants with umbilical granuloma were treated at out-door by

cryosurgery without premedication or anaesthesia. Their age varied from 10 to 60 days. They had granuloma of 4 to 10 mms size.

Follow up at 4 weeks in 44 revealed normal umbilicus though surrounding skin showed depigmented ring of 1 to 3 mm size in 28 cases which disappeared by 6 months with return to normal skin. Umbilicus looked normal. Therapy was without any complication.

Available literature in obstetrics, gynaecology, pediatrics is silent on this modality except first report on cryosurgery for umbilical granuloma by Sheth

1981. Thus, umbilical granuloma formed a new indication for the use of cryosurgery.

Discussion

Various methods have been used for the treatment of chronic cervicitis and endocervicitis. Present series indicates 86% cure with cryotherapy with need of repeat therapy in 14%. Electrocautery in developing World and laser in affluent countries are good challengers.

Literature reveals that in case of condylomata accuminata, electro coagulation excision and podophyllin give results inferior to cryosurgery. Chemotherapy has 88% success rate but its use appears drastic. Recently, immunotherapy as well as laser showed effective results, but comparatively cryosurgery can be preferred economically, availability-wise and in presence of pregnancy. No doubt at referral centres, laser is excellent. Interferon is favourably under trial.

Chalmers (1978) said authentically that he had not heard or read of cryosurgery being tried for endometriosis. Townsend and Ostergard (1969), pioneers of cryosurgery in gynaecology, Reid and Christian (1974) and Wilkinson and Mattingly (1974) have no mention on endometriosis treated by this modality.

Cryotherapy because of uniform success rate will obviate necessary surgery for umbilical granuloma. Cryosurgery also offers simple surgical tool which can be practised by pediatric physicians.

Thus, cryosurgery is an indispensable tool and can be freely used for endocervici-

tis, condyloma accuminata, early dysplasia, granulation tissue and accessible small endometriosis. All teaching hospitals and many private clinics must have cryosurgery apparatus. It should be a part of the pediatric unit for treatment of umbilical granuloma, and possession of every obstetrician and gynaecologist.

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