

A study on the effect of Cryotherapy and LEEP in cervical dysplasia.

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Abstract

This study was undertaken to ascertain whether Cryotherapy and LEEP (Loop electrosurgical excision procedure), are effective in the treatment of cervical dysplasia. 450 cases were screened for Cervical dysplasia, 80 cases were selected for treatment on the basis of Pap smear, VIA and Colposcopy. HPV testing was done to detect presence or absence of virus. Cervical punch biopsy was followed by Cryotherapy in cases of LSIL in cytologically and Colposcopically diagnosed small lesion on the cervix while cases of LSIL with large lesion on cervix & cases of HSIL were taken for LEEP. These cases were prospectively followed at 3 months, 6 months and 1 year using Pap and colposcopy. Among 80 cases, LSIL was seen in 58 females and 22 had HSIL in their Pap smear. In 14 cases, VIA was done while in 66 Colposcopy was carried out. In 41 cases, LEEP was done and in 39 cases, cervical biopsy was followed by Cryotherapy. 6 cases were lost to follow-up, 4 cases became pregnant after treatment. Follow-up was done in 70 cases. Out of 34 cases of Cryotherapy, residual disease was seen in 1 case and recurrence of disease in 4 cases. Post-LEEP, 2 cases had residual disease after 3 months for which repeat Cryotherapy was done. After 1 year, recurrent disease was seen in 2 cases. This study showed that post Cryotherapy cure rate is 88.2 % and post LEEP cure rate is 94.4% in treating cervical dysplasia.

Keywords: Cryotherapy, LEEP, dysplasia, pap, colposcopy

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Introduction

Cancer cervix is a preventable disease but least prevented. Hence it has emerged as the third most common cancer in women and the seventh overall, with an estimated 52,900 new cases and 275,000 deaths expected to occur in 2008. It is the fourth leading cause of female cancer mortality worldwide.[1]In women who do not undergo regular screening, cervical cancer can be a silent killer, taking several years to develop. By the time symptoms appear, the disease is often at an advanced stage.

The unique accessibility of cervix to direct physical examination has permitted intensive investigation of the nature of pre-malignant and malignant lesions of cervix. Various modalities of treatment have been tried for regression of premalignant lesions, a forerunner to carcinoma cervix.

In general, treatment techniques are divided into Ablative and Excisional procedures. Ablative methods such as Cryotherapy, Electro-cautery, Cold-coagulation and Electrocoagulation diathermy rely on accurate Colposcopically directed biopsy diagnosis because no tissue speci-

men provided by treatment procedure on the other hand Excisional procedures such as LEEP, LLETZ and Cone biopsy provide specimen. So these techniques are both diagnostic and therapeutic.

Therefore the present study was undertaken to see whether Cryotherapy and LEEP are effective in treating cervical dysplasia.

Methodology

This was a prospective study of 80 cases that were selected from 450 patients attending OPD and IPD. These cases were having one or more complaints of Discharge per vaginum, pain lower abdomen, low back pain, postcoital bleeding and on per speculum examination having hypertrophic cervix, erosion, nabothian follicles, bleed on touch and unhealthy discharge. Antenatal women and post-hysterectomy patients were excluded.

All cases were screened for dysplasia using conventional Pap smear, out of which 80 cases were selected for treatment. Further VIA and Colposcopy was done to select the site and size of the most abnormal lesion for biopsy based

on surface texture, presence or absence of abnormal vessels, density and demarcation of acetowhite areas from surrounding areas of normal cervix. HPV testing was done using Paper smear and Liquid media method for presence or absence of HPV (irrespective of the type).

Cervical punch biopsy was done in cases having LSIL in cytology and Colposcopically diagnosed small abnormal acetowhite area while cases having LSIL with large three or four quadrant lesions and HSIL in cytology were subjected to LEEP. In cases whom cervical punch biopsy was done were taken for Cryotherapy using Freeze–Thaw–Freeze technique of 3 minute freezing followed by 5 minutes thawing and again 3 minutes freezing to ensure cryonecrosis occurs down to at least 5mm depth. All cases were followed at 3 months, 6 months and 1 year using Pap smear and Colposcopy to detect the presence or absence of residual or recurrent disease.

Results

During this long term follow-up study, 80 cases were selected from 450 cases on the basis of Pap smear. 58 cases were LSIL and 22 cases had HSIL on cytology. In 14 cases VIA and 66 cases Colposcopy was done. HPV testing was done in all cases, 15 (26%) of LSIL were positive and 43 (74%) were negative. 9 (41%) cases of HSIL were positive and 13 (59%) were negative for HPV. On histopathology, among 58 cases of LSIL on Pap, 4 (7%) were Chronic cervicitis, 48 (82.7%) had LSIL and 6 (10.3%)

had HSIL. Among 22 cases of HSIL, 9 (41%) had Chronic cervicitis, 6 (27%) had LSIL and 7 (32%) had HSIL.

In 39 cases of LSIL, with colposcopically diagnosed small area of dysplastic lesion on Transformation zone, were taken for punch biopsy followed by Cryotherapy. Post Cryotherapy cases were advised to abstain from vaginal intercourse, douching and tamponing for 6 weeks and report back if they experienced profuse malodorous, blood tinged discharge for more than 2 weeks with lower abdominal pain.

All 22 cases of HSIL and 19 cases of LSIL with Colposcopically diagnosed large area of dysplastic lesion on Transformation zone were treated with LEEP. Post LEEP cases were advised to avoid intercourse, douching and tamponing for 6 weeks. Brown black discharge lasting for 2 weeks is normal. If the discharge persisted for more than 2 weeks, patients were asked to report back. In case of infection and irregular bleeding, antibiotics, analgesics and haemostatic agents were given.

Follow-up is of paramount importance to detect the presence of residual or recurrent disease. Even with the most intensive follow-up compliance is a problem. In this study, follow-up was done at 3 months, 6 months and 1 year. 6 cases were lost to follow-up within first 3 months while 1 case of LEEP and 3 cases of Cryotherapy became pregnant. In these cases, Pap was to be done after 6 months of delivery. On 70 cases, Pap and Colposcopy were done periodically.

Table 1. Post-Cryotherapy follow-up (N=34)

	Normal	Inflammatory	ASCUS	LSIL	HSIL
3 months	18	11	4	1	0
6 months	22	9	3	0	0
1 year	19	8	3	4	0

Table 2. Post-LEEP follow-up (N=36)

	Normal	Inflammatory	ASCUS	LSIL	HSIL
3 months	10	20	4	2	0
6 months	18	15	3	0	0
1 year	20	12	2	1	1

Post Cryotherapy residual disease seen in 1 case within 3 months, it was left for self recovery. After 1 year, 4 new cases developed recurrence.

Post LEEP residual disease was seen in 2 cases, repeat Cryotherapy was done in them. After 1 year, 1 new case of LSIL was reported, repeat LEEP done in that and 1 new case of HSIL was seen. Hysterectomy was preferred to repeat LEEP due to short length of the cervix as there were chances of vaginal and bladder injury.

Post Cryotherapy cure rate was 88.2% and recurrence rate Post LEEP cure rate was 94.4% and recurrence rate was 5.6%.

Discussion

In our study, LEEP had a significantly higher overall cure rate of 94.4% compared to 88.2% of Cryotherapy. Although Cryotherapy was not superior to LEEP, its cure rate is acceptable and therefore provides a viable treat-

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ment option for low resource countries like India where majority of women are at risk for cervical cancer due to lack of screening facilities.

The most common cause of treatment failure in Cryotherapy are an inadequate freeze because of low refrigerant pressure, poor probe application, insufficient freeze time, large three or four quadrant lesion or extension of disease into cervical canal [2].

In multiple studies, rate of recurrence or persistence of CIN range from 1-21% with large lesions and lesion with involved margins has the highest treatment failure rate [3]. Twelve months after treatment Cryotherapy is approximately 90% effective in treating HSIL. Cryotherapy generally produces a lower cure rate for larger lesions (bigger than the tip of Cryotherapy probe or occupying on average of over 75% of the surface area of the cervix) and for lesions that extend into the cervical canal. An alternative treatment plan should be considered for women with these types of lesions [4]. Severe bleeding and pelvic inflammatory disease, two of the most serious potential complications are extremely rare in women treated with Cryotherapy. There also is no evidence that Cryotherapy is linked to cervical stenosis or has any long term impact on women's fertility or pregnancy outcomes – important considerations when treating women of reproductive age [5]. LEEP is 90 – 95 % effective in treating high grade dysplasia but is more burdensome than Cryotherapy in terms of necessary provider skills and training, equipment needs, reliance on electricity and cost [6]. LEEP is also associated with a slightly higher rate of complications and side effects such as post - operative bleeding and peri-operative pain [7].

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Abbreviations:

VIA –Visual Inspection with Acetic acid, LSIL –Low grade Squamous Intraepithelial Lesion, HSIL – High grade Squamous Intraepithelial Lesion, CIN – Cervical Intraepithelial Neoplasia, HPV – Human Papilloma Virus, LEEP – Loop Electrosurgical Excision Procedure