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### HGSIL on Pap smear : Good indication for direct LEEP procedure

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#### ABSTRACT

**Objective:** Our aim was to evaluate the effectiveness and accuracy of LEEP procedure inpatients with high-grade dysplasia on cytology without prior colposcopically directed biopsy. **Study Design:** It was a prospective study for a period of 1 year where LEEP was performed on all the patients for high-grade squamous intraepithelial lesion (HGSIL) on Papanicolaou (Pap) smear without a prior cervical biopsy. Colposcopy was done before LEEP and scoring was done based on Reid's colposcopic index. After informed consent LEEP was performed. Specimen sent for histopathology. Histology findings were correlated and data analysed taking specimen of LEEP for histology as gold standard. **Results:** Out of 81 patients undergoing LEEP, 44 patients (54.3%) had cervical intraepithelial neoplasia (CIN) grade 2 or greater. 18 (41%) of these 44 patients with high-grade dysplasia on histopathology had a normal or low-grade lesion on colposcopy. There were 20 patients with CIN 1 to CIN 1-2 and 17 patient with normal findings. **Conclusion:** LEEP is better decision in patients with high grade lesion on cytology without prior colposcopic biopsy in resource constrained countries.

#### KEYWORDS

- High-grade squamous intraepithelial lesion;
- colposcopy;
- loop electrosurgical excision procedure;
- dysplasia
- Loop electrosurgical excision

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## **INTRODUCTION**

Cervical cancer is the commonest malignancy found amongst Indian women and the third most common cancer in the world. Over 5,00,000 new cases of invasive cervical cancer are diagnosed annually worldwide.

There are many cervical cancer screening programmes with treatment options available depending upon the resources and infrastructure. We usually screen with pap smear at first visit. The results of the cytology is used to decide the treatment plan accordingly. In cytology report of CIN or higher, colposcopic evaluation and directed biopsy is done usually.

LEEP is the ideal treatment for of choice in patients with histopathology report of CIN 2 or more on colposcopic biopsy. We know that the colposcopic evaluation needsexpertise and training. Besides, the accuracy of the colposcopic findings are still less reliable in correlation to histology .

Colposcopic evaluation is still very much dependent on the operator. It needs better understanding of the procedure. Studies has shown that there is considerable subjective variations and many factors like prior knowledge of the cytology report can change the accuracy of the diagnosis.A new scoring system of Reid is developed to increase the accuracy of the colposcopic assessment and histological diagnosis.

But still in developing countries resources are required for colposcopy machine and training the doctors .Almost all thecolposcopic examination is done by gynecologist who lacks necessary skill in performing this procedure.These factors are hurdle in implementation and accuracy of colposcopic evaluation. This has prompted to evaluate the alternative strategy of performing LEEP in HGSIL on cytology without prior colposcopic biopsy.

LEEP is the ideal treatment in patients with high grade lesions because it offers the tissue specimenfor histopathology. LEEP excise whole of the transformation zone, the site for all the HPV infection and precancerous changes. If the margins of the LEEP specimen are free from CIN, it indicates successful surgery. The standard indication of LEEP are positive endocervical curettage, discrepancy between cytology and histopathology results.

## **METHODS AND MATERIALS**

This is a prospective study done for a period of 2 year in the department of Obstetrics and gynecology at Sir Sunderlal Hospital, Varanasi from December 2015 to 2017. 81 subjects were included in our study who came positive for HGSIL in cytology. The cytology smear was reported by single trained pathologist in our hospital. All the subjects were informed about the study. General and gynecological examination was done. Colposcopy was performed and reid's scoring done. This was followed by LEEP under local anesthesia after informed consent.LEEP was done.ECC was

performed in the same sitting. The results of the ECC was used as a predictor of repeated or persistent cervical intraepithelial pathological process (CIN). LEEP specimen was sent for histology. Patients was discharged next day with proper advice. Follow up was done after 10 days with the histology reports. The histology reports were taken as gold standard.

## RESULT

The distribution of colposcopic findings is given in Table 1. In our study, 26 and 34 among 81 subjects were reported to be LGSIL and HGSIL respectively. Despite HGSIL on Pap smear before the LEEP, 16 patients had no pathologic findings and in 5 patients, colposcopic evaluation was unsatisfactory. Table 2 shows the study of study samples according to the histology reports of LEEP. 17(20.9%) patients has normal HPE findings, 24(24.8%) has HPE report of CIN 1 to CIN1-2 and 44 (54.3%) has HPE report of CIN 2 or more. One patient had a microinvasive squamous cell cancer.

In Table 3, colposcopic findings are correlated with the histological diagnosis. Of 81 patients undergoing LEEP, 44 patients (54.3%) had cervical intraepithelial neoplasia (CIN) grade 2 or greater. 18 (41%) of these 44 patients with histologically proved high-grade dysplasia had a normal or low-grade colposcopic examination. There were 20 patients with CIN 1 to CIN 1-2 and 17 patient with normal findings. Thus, there is significant number of patients 18(22.22%) who are saved by doing the direct LEEP instead of prior colposcopy which showed normal or low grade changes. The results has shown that there is no association between colposcopy and HPE (p value 0.299).

**Table 1: Distribution of Study Subjects according to the colposcopy finding.**

Colposcopy finding	Frequency	Percentage (%)
Normal	5	6.2
Cervicitis + HPV changes	11	13.6
LSIL	26	32.1
HSIL	34	41.9
Unsatisfactory	5	6.2
<b>Total</b>	<b>81</b>	<b>100</b>

**Table 2 : Distribution of study samples according to biopsy result of LEEP Specimen:**

Biopsy Finding	Frequency	Percentage (%)
Normal	5	6.2
Cervicitis	12	14.8
CIN 1 to CIN1-2	20	24.8
CIN 2 or more	44	54.3
<b>Total</b>	<b>81</b>	<b>100</b>

**Table 3: Correlation between colposcopic finding and biopsy result of LEEP Specimen:**

		HPE	HPE	HPE	
		NoCIN(Normal, cervicitis and HPV changes)	CIN 1to CIN 1-2	CIN 2 or more	TOTAL
colpo_ feature	Normal	4 25.0%	3 18.8%	9 56.2%	16 100.0%
	Low Grade Lesion	8 30.8%	9 34.6%	9 34.6%	26 100.0%
	High Grade Lesion	4 11.8%	7 20.6%	23 67.6%	34 100.0%
	Unsatisfactory	1 20.0%	1 20.0%	3 60.0%	5 100.0%
<b>Total</b>	21.0%	24.7%	54.3%	100.0%	

**There is no association between colposcopy and HPE. Chi square value= 7.24, df=6 and p value= 0.299**

## DISCUSSION

In our study, colposcopic findings are correlated with the histology findings. Among 34 patients with high grade lesion in colposcopy, 23 (63.8%) had histological report of high grade lesion. Among 42 patients with normal or low grade lesion in colposcopy, 18 (42.9%) had histologically proven high grade abnormality. Thus, women with negative colposcopy remain at significant risk for subsequent detection of CIN 2 or higher. The insufficiencies of colposcopy have been widely documented. <sup>3</sup>Study by Pretorius showed that the ability to detect the abnormal areas with colposcopy is not consistent with CIN. 37.1% of the CIN 2 lesions or worse were diagnosed from biopsies of normal areas at colposcopy. <sup>10</sup> Increasing the number of biopsies taken each time will increase sensitivity for the detection of high-grade disease <sup>11</sup> but it requires multiple biopsies which will decrease the patient compliance due to increased discomfort. <sup>12</sup>. Thus the performance and accuracy of colposcopic findings are based on the training, experience and skill of the operator. A total of 63 patients underwent ECC immediately after loop excision, of which 56 (88.9%) patients were found to have benign endocervical tissue, whereas 2 had HGSIL. There were no specific clinical predictors of a high-grade ECC such as age, size of the dysplastic lesion, or adequacy of the colposcopic examination.

## CONCLUSION

The diagnosis and treatment of cervical abnormality at one setting visit is a good option in patients coming from remote areas to tertiary care center. This increases the compliance of the

patient by saving time, money and discomfort due to multiple visits as done in standard screening and treatment protocol for CIN. Besides it overcome the problem of need for skilled colposcopist. This also decreases the patients lost to follow up and coming with the frank cancer later on. However direct LEEP has also got its disadvantages by overtreatment in a normal case with its related morbidity. In our study 20.9% has normal HPE report who underwent unnecessary LEEP. But the percentage is relatively low as compared to other studies. Hence we observe that our study strategy has got advantages which outweigh the risk of overtreatment in our settings. Though we acknowledge the constraints of this study, small sample size and no control group, we believe our results support the use of LEEP on a see-and-treat basis.

**CONFLICT OF INTEREST:** Nil

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