Diagnosing Cervical Lesions Through LLETZ - A Reliable and Effective Tool

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Significance:
Cervical dysplasia, which is the abnormal growth of epithelial tissue around the squamocolumnar junction (transformation zone) of cervix ranges from cervical intraepithelial neoplasm (CIN) stage I (mild) to stage III (severe). Although it can be prevented through a vaccine and cured efficiently at a pre-invasive stage, it is the 4th most prevalent source of cancer related deaths worldwide with 85% share in the developing countries like Pakistan. Current study highlighted use of LLETZ for effective diagnosis.

ABSTRACT

Background: Cervical dysplasia is the most common gynecological disorder of modern era. It initiates around the squamocolumnar junction of the cervix commonly due to the infection of human papilloma virus. Large loop excision of transitional zone is globally a standard procedure of choice both for diagnosing and treating cervical dysplasia. Pap smear is a fast and easy assessment tool for detecting cervical lesions, but it is relatively unreliable.

Methodology: Fifty patients of age group 35 to 65 years patients having normal looking cervix with abnormal pap smear or suspicious looking cervix with or without abnormal pap smear, were selected for the study after informed consent. The procedure for LLTEZ was performed under strict aseptic measures in the procedural room and the biopsy specimen was sent for histopathological examination. The pathological findings were presented as percentages.

Results: 66% cervical biopsy specimens were suggestive of chronic cervicitis and 24% samples were suggestive of chronic cervicitis with squamous metaplasia. Mild dysplasia in 4% samples, moderate and severe dysplasia were seen in 2% samples.

Conclusion: LLETZ is an efficient procedure to deal with cervical dysplasia. It must be recommended for the work-up of uncertain gynecological presentations. The expertise of professionals must be improved through training to obtain maximum benefits.

Introduction

Cervical dysplasia, which is the abnormal growth of epithelial tissue around the squamocolumnar junction (transformation zone) of cervix ranges from cervical intraepithelial neoplasm (CIN) stage I (mild) to stage III (severe). It evolves throughout the life span of a sexually active women. As the cervix is directly exposed to human papilloma virus (HPV), this is the most vulnerable site for dysplasia and carcinoma at a younger age. (1) HPV is the most common sexually transmitted infection among the sexually active women and HPV type 16 & 18 are precisely related to 70% of cervical cancers. (2) Supplementary risk factors comprise of unprotected sex at an early age, multiple sexual partners, multiparity etc. (3)

Although it can be prevented through a vaccine and cured efficiently at a pre-invasive stage, it is the 4th most prevalent source of cancer related deaths worldwide with 85% share in the developing countries like Pakistan. (4) The aggravating factors are more socio-economical like lack of awareness and resources, guilt and anxiety. (5,3)

Large loop excision of transformation zone (LLETZ) is the current gold standard treatment for all the patients with CIN. It is a dependable, inexpensive and minor surgical procedure, routinely used in outpatient department for diagnosis as well as treatment of the cervical lesions. LLETZ not only ensures the removal of abnormal tissue and provision of an adequate sample for histopathological studies but also doesn't harm fertility. (6,7,8) Vaginal bleeding and discharge are its common complications while hemorrhage and cervical stenosis are the rare one.

Pap smear is a cytology based highly sensitive screening test for the diagnosis of cervical cancerous and pre-cancerous lesions. Mitchell et al concluded that inadequate sampling and errors make the pap smear conclusion doubtful whether it is negative or positive for cytology hence the practice of relying on cytology should be discouraged and must be followed by histopathology through cervical biopsy. (9)

Present study is conducted to observe its practicability, fruitfulness of the procedure and to find out the frequency of the cervical lesions in biopsy samples according to histopathological findings.

Patients and Methods

A hospital based descriptive study was conducted over fifty patients of age group 35 to 65 years at the Department of Obstetrics & Gynecology, Nishtar Hospital, Multan, Pakistan. In the outpatient clinic, the patients having normal looking cervix with abnormal

pap smear or suspicious looking cervix with or without abnormal pap smear, were selected for LLETZ. The clinical cases were thoroughly reviewed via detailed history, examination and routine investigations such as complete blood count, urine routine examination, blood group, ultrasonography and chest radiography.

Pregnant ladies and those suffering from invasive carcinoma cervix and previously treated cervical lesions were excluded from the study. Patients fit for LLETZ were admitted to the ward a day before the procedure. All the selected cases were thoroughly briefed regarding the procedure, expected benefits and likely complications after that a written consent was taken. Patients were kept fasting for 6 hours and a broad-spectrum antibiotic was injected an hour before the procedure.

The procedure for LLTEZ was performed under strict aseptic measures. Bimanual examination was performed to assess the size, shape and position of uterus and adnexa. Under lithotomy position, the cervix was exposed by inserting Sim's speculum of appropriate size into the vagina. The anterior lip of the cervix was grasped with a single bite vulsellum above the area to be excised for biopsy after identifying by colposcopy. The squamocolumnar junction was visualized and the low voltage high frequency thin wire loop electrode was advanced into the cervix just lateral to the transformation zone until the required depth of 3mm was achieved. It was then taken slowly across the cervix enveloping the transformation zone. The loop was then withdrawn beyond the other lateral margin of the transformation zone. The loop was moved slowly thus clean cut was produced. Hemostasis was secured by using ball electrode. The specimen was saved and sent for histopathological evaluation to the pathology department of Nishtar Hospital, Multan. Patients were shifted to the ward later and kept under observation for six hours.

Results

LLETZ was performed in total 50 patients and the results are shown in table 1 & 2. Two third of the patients (66%) were diagnosed as cases of chronic cervicitis on histopathology. Acute cervicitis and cervical cancer were not noted in any sample. On pap smear, 62% patients were labelled as normal and inflammation was detected in 32% patients.

Discussion

In our study, major presenting complaint was vaginal discharge or inter-menstrual bleeding with altered appearance of cervix. The most frequent histopathological finding in our study was chronic cervicitis; with squamous metaplasia in 33 cases and without squamous metaplasia in 12 cases. Only four (8%) patient biopsy samples were declared positive for dysplasia (Table 1). Zlatkov et al. conducted the same procedure on 114 women with different grades of cytological, colposcopical and histological abnormalities. Their results depicted that 7.9% biopsies were normal, and 87.7% biopsies were positive for dysplasia. (10) This contradiction can be explained by the difference of culture in the western world e.g. sexual exposure at early age and multiple sexual partners.

Pap smear test revealed that 31 patients had normal cytology while inflammatory pap smear was detected in eighteen patients out of fifty and dysplasia in three patients (Table 2). Cytological examination merely detects the possible presence of a cervical pre-cancerous lesions or cancer; it does not make an absolute diagnosis which requires histological evaluation of appropriate biopsy specimens. Hence it

Table 1: Histopathological findings of LLETZ (n=50)

S. No.	Histopathological Finding	No. of Patients	Percentage
1	Acute cervicitis	0	0%
2	Chronic cervicitis	33	66%
3	Chronic cervicitis with squamous Metaplasia	12	24%
4	Nonspecific inflammation	1	2%
5	Mild dysplasia	2	4%
6	Moderate dysplasia	1	2%
7	Severe dysplasia	1	2%
8	Cervical carcinoma	0	0%

Table 2: Pap smear finding (n=50)

S. No.	Pap Smear Finding	No. of Patients	Percentage
1	Normal smear	31	62%
2	Inflammatory smear	16	32%
3	Mild dysplasia	2	4%
4	Moderate dysplasia	1	2%
5	Severe dysplasia	0	0%

is suggested if a patient is symptomatic or if the cervix is suspicious looking, the LLETZ must be planned irrespective of Pap smear results. Meggiolaro et al. point of view contradicts that Pap test is a cost-effective preventive method if practiced regularly for the ladies under 40 years of age. (12)

Godfrey et al. also suggested that all the symptomatic women deserves referral and pathological investigations after conducting study on women complaining post-coital bleeding and their cytology was either negative or inadequate. The colposcopy guided specimen's pathology revealed that 9% cases had cancerous or precancerous cervix. (11) According to the descriptive study conducted by Nkwabong et al. the concluding remark is that cervical biopsy is mandatory if it has abnormal architecture. (13)

According to the approved guidelines, LLETZ is performed preferably under local anesthesia in an outpatient department and doesn't require a hospital stay. Due to lack of availability of sources and skilled personnel in our outpatient department, the procedure was conducted under general anesthesia in all the patients.

The duration of hospital stay is short thus LLETZ procedure doesn't cause burden on patient's finances. In this study, 48 (96%) patients stayed for six hours (postoperative) while only 2 (4%) patients remained admitted for more than six hours because of peri-operative bleeding. LLETZ is a practical and fast method of diagnosing and treating different cervical lesions with limited complications. LLETZ training models must be incorporated into the educational curriculum to enhance the skills of each professional and efficiency of this procedure. (14)

Conclusion

LLETZ is an accurate and reliable mean of diagnosing cervical lesions because of availability of the excised specimen for histological diagnosis. It should be performed without hesitation when diagnosis is vague. From the present case record analysis, it is concluded that commonest histopathological finding of LLETZ is cervicitis (92%) after that cervical dysplasia which is seen in 8% patients. These figures are from the hospital population and may not be the true representative of general population.

Conflict of Interest: This study has no conflict of interest to declare by any author.
Disclosure: None
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