Bangladesh J Obstet Gynaecol, 2016; Vol. 31(2): 81-85

The Impact of Loop Electrosurgical Excision Procedure for Cervical Intraepithelial Neoplasia on Female Sexual Function

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Abstract:

Objective(s): *Aim of the study was to find out the impact of LEEP (Loop Electrosurgical Excision) on overall sexual function in women with CIN.*

Materials and methods: *This cross sectional study was performed at colposcopy clinic of Dhaka Medical College and Hospital from January 2016 to June 2016. Forty six women with CIN who underwent LEEP at least 6 months before were included in this study by purposive sampling. Face to face interview was taken with a preformed questionnaire on pre procedural sexual function and post-procedural sexual function.*

Results: *Mean age of the women was 32.32 ±4.44 years (range 25 to 40 year). Time of resumption of sexual intercourse was 6.2 weeks on average. There was no change in coital frequency. About nine percent of women complaint of dyspareunia and vaginal dryness, 6.52% complaint of dissatisfaction to sexual intercourse, 10.87% felt lower abdominal pain after coitus and 13.1 % women felt decrease in sexual desire.*

Conclusion: *LEEP for the treatment of cervical intraepithelial neoplasia doesn't significantly affect women's sexuality, when compared with sexual function before performing LEEP. Possible adverse effects may overcome by psychological counseling and healthy and hygienic life style.*

Key words: *CIN, LEEP, Sexual function.*

Introduction:

Among the total global cervical cancer 80% occur in developing countries[1]. Globally every year 527624 new cases of cervical cancer are reported and 265,672 die from the disease[2]. Of them half the global burden is in Asia and one quarter in Southern Asia. In Bangladesh yearly burden of cervical cancer is about 11956 [3] . Hospital based data revealed that cervical cancer constitutes 22 -29% of female cancer in Bangladesh[4] . Interestingly, the disease is excellently preventable by treating the precancerous lesion known as CIN /cervical dysplasia. There are typically no symptoms of cervical dysplasia. There are three categories of CIN:CIN 1- mild dysplasia, CIN 2- moderate dysplasia, CIN 3- severe dysplasia, or carcinoma in situ that has not spread below the surface layer of tissue.

Cervical intraepithelial neo-plasia (CIN) is most frequent in young women in reproductive age, and a peak incidence occurs among women in their twenties[5]. There is a 5-12% chance of progression to squamous cell cancer, so management guide-lines recommend aggressive treatment for women with moderate-to-severe dysplasia. Effective treatment of high-grade lesions is important to prevent cervical cancer. However, only a small proportion of low-grade lesions proceed to high-grade lesions or invasive cancer[6].

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Treatment of cervical dysplasia depends on the severity of the condition. Mild dysplasia might not be treated immediately since it can resolve without treatment. For CIN 2 or 3, treatment can include: cryosurgery-which freezes abnormal cells, laser therapy, cold coagulation, loop electrosurgical excision procedure (LEEP), cone biopsy-when a cone-shaped piece of the cervix is removed from the location of the abnormal tissue. Among all the procedures Loop Electrosurgical Excision Procedure (LEEP) is an effective tool for management of CIN. It uses a low-voltage electrical current to remove abnormal tissues of the cervix. LEEP, the current treatment of choice worldwide, is easy to perform, inexpensive, as effective as alternative methods, and provides a surgical specimen to exclude malignancy. The American Society for Colposcopy and Cervical Pathology (ASCCP) guidelines recommend LEEP (among other approaches) for the treatment of CIN2 and CIN3, and for CIN1 under some circumstances[7]. Vaginal discharge and spotting commonly occur after this procedure for up to a few weeks. Sexual intercourse and use of tampons should be avoided for several weeks to allow better healing. Complications occur in a small percentage of women undergoing LEEP, including cervical stenosis, bleeding more than average and infection but only few reports exist describing the impact of all these procedures on female sexual function [8-18]

Female sexual dysfunction affects from 20 to 50% of women and it has an negative impact on quality of life if it is underestimated and undertreated[19,20.] There is also a relationship of sexual dysfunction in women with gynaecologic neoplasms [21,22]. When there is malignant condition, much more attention is focused on its sexual issues whereas not so many data have been published regarding the impact of the treatment of nonmalignant precancerous lesions on sexuality, although their prevalence is higher and they affect particularly sexually active women in their childbearing years [9].

Removal of a part of the cervix might have a negative impact on sexual function. As very limited knowledge exists concerning the impact of LEEP on female sexual function, the aim of this present study was to assess the impact of LEEP on overall sexual function in women with CIN.

Methods and materials:

This cross sectional study was conducted in Out Patient Department (OPD) of Dhaka Medical College Hospital (DMCH) between January 2016 and June 2016. Forty six sexually active women of reproductive age with a diagnosis of CIN attending at OPD and who were physically and mentally sound to give interview were enrolled in this study. A qualitative study was undertaken using face to face in depth interviews at colposcopy clinic of DMCH. The patients who had undergone LEEP at least 6 months before were interviewed once on post-LEEP follow-up visits with a preformed questionnaire on pre- and post-procedural sexual function. The questionnaire was constructed including the following variables like resumption of sexual intercourse, frequencyof sexual intercourse, the presence of dyspareunia, vaginal discharge, overall satisfaction with sexual intercourse (vaginal elasticity, sexual desire, vaginal lubrication, orgasmic satisfaction), associated anxiety and lower abdominal pain after coitus. As a passive partner and introverted nature of our female patients it was very difficult to distinguish between different components of sexual satisfaction.

All women of reproductive age who underwent LEEP for cervical intraepithelial lesions (persistent CIN 1 and CIN 2–3), after a histological diagnosis were included in this study. All these procedures involved the excision of a thickness d”1 cm of cervical tissue, in order to preserve future fertility and cervical continence. LEEP procedures were performed with local anesthesia (paracervical block by lignocaine and adrenalin) at colposcopy clinic as a day surgery by a trained colposcopist. All enrolled women had involved in sexual relationship during the month before LEEP. We excluded patients considered mentally unfit to fill in the questionnaires or with other illness that could interfere with the results. We also ruled out pregnant or nonsexually active women. At least 6 months after LEEP procedure during follow up visit data were collected. Collected data were compared using the McNemar test. Data on specific aspects of sexual function were analyzed using Wilcoxon signed ranks test.

The study was approved by Institutional Review Board of DMCH and an informed written consent was taken from all patients. Samples were selected on the basis of inclusion and exclusion criteria. Questionnaire was filled by taking interview. Data were entered into computer and analyzed with the help of SPSS windows version 17. A ‘P’ values of <0.05 was considered as statistically significant.

Results:

During the study period, a total of 46 sexually active women that underwent LEEP for the treatment of cervical intraepithelial lesions were enrolled. Sociodemographic characteristics of the 46 patients recruited in this study are demonstrated in Table 1.The mean age was 32.32±4.44 years (range 25–40). About 89% of women have two or more children (2.36%±0.85). About 70% women got married before 18 years age.

The interval from LEEP to interview was 6 months to one year. On average, the participants resumed sexual intercourse in 6.2 weeks after the procedure. After LEEP 8.7% women felt dyspareunia, 8.7% experienced vaginal dryness, 6.5% had decrease overall sexual satisfaction ,13.1% had no desire of sexual act and 10.9% complaint of lower abdominal pain.

Table-I

Patients clinical characteristics

Characteristics	Mean	± SD
Age (Yrs)	32.32	±4.44
	N	%
25-30	24	52.2
31-35	11	23.9
≥ 35	11	23.9
Parity		
1	5	10.9
2	25	54.3
3	9	19.6
4	7	15.2
Age of marriage (Yrs)		
< 18 years	32	69.56
≥ 18 years	14	30.43
Diagnosis		
CIN I	15	36.61
CIN II & III	31	67.39
Resumption of sexual	Mean	± SD
intercourse (Wks)	6.19	±1.29
	N	%
< 6 weeks	16	34.8
≥ 6 weeks	30	65.2

Table-II

Comparison of sexual function before and after LEEP: general aspects and sexual function

Sexual function	Before LEEP		After LEEP		P value
	No.	%	No.	%	
Dyspareunia	3	6.5	4	8.7	0.143
Vaginal dryness	8	17.4	4	8.7	0.248
Sexual Dys-satisfaction	2	4.3	3	6.5	0.655
Lower abdominal pain	2	4.3	5	10.9	0.257
No Desire of sexual act	3	6.5	6	13.1	0.180

Discussion:

In this study only 6.5% women expressed their overall sexual dissatisfaction after LEEP procedure and it was not statistically significant, p=0.665. It indicates that LEEP for the treatment of cervical intraepithelial lesions does not affect women's sexuality, when compared with sexual function before surgery. Having a precancerous lesion in cervix a woman might be psychologically depressed and anxious. Lack of adequate information regarding the cause and effects of cervical dysplasia and its treatment are the important factor provoking anxiety[23]. In that situation the answer of questions regarding frequency of intercourse, sexual desire, orgasmic satisfaction, vaginal lubrication, dyspareunia sometimes confusing which was similar with the study of Inna et al[24]. Traditionally, Asian women tend to be less open when discussing personal sexual experience and would try not to express their sexual concerns. Most of the patients may be reluctant to generate and have an open discussion on their sexual needs and problems with the physician and related health care providers[25]. The World Health Organization defined a healthy sexuality, not merely as the absence of sexual dysfunction, but as a state of physical, emotional, mental, and social wellbeing related to sexuality. Sexual function presents a relevant impact on the daily quality of life [26]. In this study 8.7% and 10.9 % women had dyspareunia and lower abdominal pain after coitus respectively, which was not statistically significant and may not develop as a result of LEEP procedure. Those were due to early resumption of sexual intercourse and poor hygiene. In this study average resumption of sexual intercourse was 6.2 weeks and in the study of Inna et al it was 8.2 weeks. Hellsten et al found in their study no correlation between this surgical procedure and deterioration of female sexual function[16]. Howells et al.[20]and Seratiet al[27] also

concluded that LEEP has no negative impact on sexual function. In fact, considering data on sexual function of 210 women undergoing colposcopy (77 undergoing LEEP as well), they concluded that in this group of patients there is a reduction of spontaneous interest in sex. In this study decrease in sexual desire was found in 13.1% cases. In a longitudinal study by Kilkku et al 65 women who had Cold Knife Conization followed by electro coagulation of the ectocervix were interviewed before operation and at 6 weeks, 6 months, and 12 months after operation[28]. There was no significant change in libido, coital frequency, orgasm, and overall satisfaction in sex life. In literature cryotherapy leads to a higher incidence of superficial dyspareunia after treatment[12], while CO2 laser conization leads to a decrease in attraction, to changes in sexual response and to feelings of sexual trauma, depression, and vulnerability [9,13,14]. In a prospective study on 105 patients, Campion et al found that CO2 laser vaporization causes a decrease in spontaneous interest in sex, a decline in frequency of sexual intercourse, arousal, and orgasm, as well as it provokes reduction of vaginal lubrication and dyspareunia, leading to experience negative feelings about sex[15]. Only one study in literature reported that after cold-knife conization, showing that this technique does not lead to a global deterioration in sexual function[29,30]. Only 8.7% patients had vaginal dryness, which might be due to healing of traumatized cervix by inflammation and fibrosis. But it is unclear whether or not this surgical procedure could cause either a chronic inflammation process, impacting negatively on female sexual function [21]. Although several authors found significant adverse psychosexual sequelae associated with diagnosis and treatment of cervical intraepithelial lesions [16,22], there is limited evidence of psychological impact of this condition. A limitation of this study is a small sample size. Moreover, different components of sexual function could not be asked separately, the effect of different underlying cervical pathology on sexual function cannot be meaningfully determined in this study because the majority (67.39%) of the participants had histological diagnosis of HSIL.

Conclusion:

This study showed LEEP was associated with small decreases in overall sexual satisfaction and vaginal dryness, which was not significant. As anxiety is an important factor for sexual function determination so psychosexual counselling is important for women who undergo Pap smear and colposcopy, especially if these diagnostic procedures are followed by LEEP for the treatment of cervical intraepithelial lesions.

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