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The Prevalence of Pre-invasive and Invasive Lesions of the Cervix in Women with Post Coital Bleeding Referred to Gynecology Oncology Clinic of Afzalipoor Hospital, Kerman from March2015 to March2016

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Abstract

Background: Bleeding during or immediately after the intercourse can be seen in women with benign cervical changes such as polyps, ectropion or infection of the cervix. But, sometimes, important diseases such as cancer of the cervix can be associated with post coital bleeding (PCB). The aim of this study was to find the prevalence of microscopic pre-cancerous lesions of the cervix in women with PCB.

Methods: In this study, 120 women with PCB were entered and studied by liquid based Pap smear, colposcopy and biopsy. Also, some of them were studied with endocervical brush and the obtained data were analyzed through SPSS software.

Results: In this study, 113 of 120 women had normal Pap smear, while 7 ones had abnormal Pap smear and ASCUS was reported in these 7 Pap smear samples. Of 120 studied women, 9 patients (7.5%) had endocervical polyps, 72 patients (60%) had chronic cervicitis, 12 cases (10%) had CIN I, 4 patients (3.3%) had CIN II-III and 2 patients (1.7%) had cervical cancer. Of 18 subjects who had abnormal pathology, 14 patients (77.8%) had normal Pap smear.

Conclusion: Since significant percentage of patients with abnormal pathology had normal Pap smears, it is recommended that all women who complain from persistent and untreatable PCB undergo colposcopy and biopsy. Pap smear alone is not enough for triage these patients due to its vast false-negative reports.

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Introduction

Post- Coital Bleeding (PCB) is referred to bleeding after or during intercourse without relation to the patient's menstrual period. This bleeding can have a very important pathologic reason. One third of these patients also have abnormal uterine bleeding (AUB) without any relation with intercourse and 15 percent of them have complaints from dyspareunia (1, 2). The prevalence of PCB in population varies from 0.7 to 9 percent

and its cumulative prevalence in women of reproductive age has been reported 5 to 6 percent (3-6). In a systematic review, the prevalence of PCB has been reported 7 to 9 percent (1).

PCB and abnormal vaginal discharge are among primary symptoms of cervical cancer. The prevalence of PCB in patients with cervical cancer has been reported between 7 to 39 percent and some studies have reported that the first presentation of cervical cancer, in approximately 11 percent of patients, is PCB (7).

Each year the ratio of cervical cancer patients with PCB complaint decreases which can be due to using screening programs for cervical cancer and diagnosing it in its primary stages or even in pre-invasive state (8-10).

Nonmalignant causes of PCB are cervical ectropion, infection with HIV, cervical intraepithelial neoplasia (CIN) and vaginal and endometrial lesions (2, 11).

In a similar study about the frequency of abnormal cervical pathology and the incidence of cervical neoplasia in women with PCB who had negative cytology, the results showed that women with post-coital bleeding, even with normal smears, are at much greater risk of cervical neoplasia than the general population (12).

Another study has been conducted to determine the risk of significant cervical pathological abnormality in women referred to the colposcopy clinic primarily because of post-coital bleeding. The research has proposed that post-coital bleeding should remain an indication of referral to the colposcopy clinic for a detailed evaluation of the lower genital tract (3).

Recent WHO guidelines recommend that all women with PCB, first, should be examined with speculum and if the cervix seems suspicious they must be referred for colposcopy as soon as possible (4, 6).

In the diagnosis of the cause of PCB, different instruments are used. The most important one is colposcope (10, 11). Colposcopy is one of the main steps of cervical cancer screening but referral of all patients with PCB for colposcopy have some disadvantages like: putting patients in stressful situation, time consuming process, lacking expert clinicians in all centers and therefore unnecessary referral of most of patients to the tertiary centers causing an unnecessary process in many patients.

One of approaches for screening cervical lesion is Pap smear but some studies show that normal cytology cannot exclude abnormal pathology; so, it seems that using Pap smear, alone, is not sufficiently accurate as a diagnostic method in PCB patients (1).

PCB has a variety of causes and it has been valued differently in various studies; therefore, the present study was designed to verify the significance of PCB in the probable existence of serious cervix lesions.

Material and Methods:

In this cross-sectional study, 120 women who referred to gyn-oncology clinic of Afzalipoor hospital, kerman, Iran from 2014 to 2015 with chief complaint of PCB were included. The exclusion criteria were pregnancy, history of invasive or pre-invasive lesions at uterus or cervix, previous history of total hysterectomy, the presence of cervicitis or cervical polyp in cervix and previous ablative or accessional treatment modalities of cervix. The study was approved by the ethics institutional review board of Kerman University of Medical Sciences and informed consent was obtained from

participants. All included participants had PCB and their examination included cervical inspection with speculum, liquid based Pap smear, colposcopy and also colposcopy directed biopsy.

All participants were asked about cervical cancer risk factors such as age, numbers of their sexual partners, gravidity, parity, use of hormonal contraceptives and their menstrual and smoking history using a check list. Then, all patients were examined with careful inspection and in the case of finding gross polyp or cervicitis, the case was being excluded from the study. In the next step, liquid based Pap smear was done for all participants. Afterwards, colposcopy procedure was done by a trained gyn-oncologist and biopsies were obtained from abnormal areas.

In both patients whose colposcopy was satisfactory and normal and those with unsatisfactory colposcopy, 4 randomized biopsies from the 3, 6, 9 and12 o'clock of cervix were taken. Endocervical curettage was also done in patients with unsatisfactory results (11). In pathology reports, level I-III CIN and cancer were considered as positive findings or abnormal; whereas, infection and polyp were considered as negative or normal findings.

Statistical Analysis

For data description, we used frequency (percent), mean ± SD, Median and Range and to evaluate the difference between groups, we used Mann-Whitney and t-test, Chi-Square, Fisher exact, and Kruskal-Wallis tests. To find the relationship between variables, we used Spearman correlation. All statistical analyses were performed using SPSS software (Version 17.0, SPSS Inc., and Chicago IL).

Results

As it is seen in table 1, in the age group of 22-35 years (mean age: 29.2 years), 4 patients (3.3%) had CIN I and 3 patients (2.5%) had CINII-III. In this group, cancer was not seen. In the age group of 36-56 years (mean age of 42.1 years), 8 cases (6.6%) had CINI and 1 case (0.83%) had CINII-III; these findings showed no significant relationship between age and CIN (p value: 0.065).

Table 1. Association of age and CIN/cancer

Pathology	Age group (year)		P value
	36-56	22-35	
CIN I	22-35	4 (3.3%)	0.243
CIN ≥II	1 (0.83%)	3 (2.5%)	0.243
cancer	2 (1.6%)	0	0.065

Participants were divided into the two groups based on the age of first intercourse. In the group with the first intercourse at the age of 11-21 years, 13.6% had CIN I, 5.1% had CINII-III and in the group with first intercourse at the age of 22-35 years, 6.9% had CIN I and 1.7% had CIN II-III and only 2 patients had cancer. Accordingly, CIN I, CIN II-III and cancer rates showed no significant difference based on the age of first intercourse (p value: 0.852, 0.154 and 0.162 respectively). The results have been presented in table 2.

Table 2. Association of age of first intercourse and CIN/cancer

Pathology	Age of first intercourse (year)		P value
	22-35	11-21	
CIN I	6.9%	13.6%	0.852
CIN ≥II	1.7%	5.1%	0.154
cancer	3.4%	0	0.162
Normal pathology	88%	81.3%	0.114

None of the patients with abnormal pathology (18 patients) were cigarette smoker, but in patients with normal pathology (102 patients), 3 cases (2.9%) were smoker that showed no significant relationship between smoking and cervical pathology (p value: 0.461).

All cases with abnormal pathology had only one sexual partner and in patients with normal pathology, only 2% had 2 or more partners; these results showed no significant difference between the two groups based on having multiple sexual partners (p value: 0.549).

In group with abnormal pathology, 4 cases (22.2%) and in group with normal pathology, 19 cases (18.6%) were using hormonal pills as contraceptive that showed no significant difference between the two groups in terms of using OCP (p value: 0.864).

From 18 patients with abnormal pathology, 14 cases (77.8%) had normal Pap smear results and only 4 cases (22.2%) had abnormal Pap smear results and in 102 patients with normal pathology 99 cases (97.1%) had normal Pap smear and 3 cases (2.9%) had abnormal Pap smear results; so, these results showed significant relationship between Pap smear and pathology results (p value: 0.044). The following results have been summarized in table 3.

Table 3. Association of CIN/cancer and studied variables

Variable \ pathology		Normal	Abnormal	P value
Smoking	yes	2.9%	0	0.461
	No	97.1%	100%	
Number of sexual partners	1	98%	100%	0.549
	≥2	2%	0	
History of using OCP	Yes	19.6%	22.2%	0.846
	No	80.4%	77.8%	
Pap smear	Normal	97.1%	77.8%	0.044
	Abnormal	2.9%	22.2%	

Based on the parity, the subjects were divided into the two groups of 0-2 and ≥3. In patients with CIN I, 66.7% had 0-2 parturition and 33.3% had 3 or more parturition (p value: 0.544). In CINII-III, 50% had 0-2 parturition and 50% had 3 or more parturition (p value: 0.855). As it is seen in table 4, from 2 cases of cancer, one of them is in the group of 0-2 parturition and the other one is in the group of 3 or more parturition. Therefore, no significant relationship was found between parity and pathologic results (p value: 0.365).

Table 4. Association of parity and CIN/cancer

variables	Parity		P value
	0-2	3-7	
CIN I	66.7%	33.3%	0.855
CIN II-III	50%	50%	0.544
cancer	50%	50%	0.365
Normal pathology	64%	36%	0.154

Discussion

PCB has various causes with different values. Although, benign changes as polyp, ectropion or infection of cervix can cause PCB but a serious disease, like cervical cancer, may also show itself with PCB (13).

In previous studies, different prevalence rates for benign changes, like cervical polyp and ectropion, and abnormal pathologies, like CIN and cancer, have been reported. (1, 11, 14). These differences can be attributed to different populations and varied prevalence of HPV in them.

In some patients with chief complaint of PCB, the cause could never be found. According to a study, some of these PCB cases with unknown cause, had positive culture for Chlamydia and bacterial vaginosis (15). In some studies, cervical cancer prevalence ranged from 5.5-6 percent and abnormal pathologies (CIN and cancer) were between 6.9 to 17 and even 19 percent (15). In our study, there were two cases of cervical cancer (1.7%) and 16 CIN patients (13.3%); so, abnormal pathology was 15 percent. In some studies, cervical cancer has not been reported that might be due to the population of their studies. The present study showed no significant difference based on different cervical cancer risk factors, like age of first intercourse, smoking, having multiple sexual partners, using OCP and increased parity. From 18 patients with abnormal pathology (CIN and cancer), 14 cases (77.8%) had normal Pap smear results and 4 other cases only showed minimal abnormality (ASCUS) in Pap smear that according to recent guidelines, colposcopy and biopsy is not recommended for them; therefore, serious pathologic problems might be missed. In our study, pre-invasive lesions and cancers were only diagnosed through colposcopy and biopsy; so, it is reasonable that using Pap smear, alone as a triage for PCB, might not be enough and have high false positive results. Therefore, it seems better to refer all persistent PCB cases for colposcopy and biopsy.

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