

Clinico-pathological profile of patients with suspected cervical carcinoma

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Abstract:

Background: Cervical cancer in India accounts for 1/4th cancer burden of world. Morbidity and mortality due to cervical cancer declined dramatically in developed countries after introduction of cytology based screening programs and quality treatment.

Objective- To find out proportion of and pattern of cellular atypia and dysplasia, to evaluate ASCUS/ LSIL cases with colposcopy, HPV testing and histological examination.

Methodology: A descriptive cross sectional study was conducted for one year at Ramakrishna Mission Seva Pratishthan, Vivekananda Institute of Medical Sciences (RMSPVIMS) involving 21-45 years married women attending Gynae & Obstetrics OPD with suggestive symptoms of cervical cancer. Eligible women were subjected to Pap smear followed by colposcopy, HPV DNA testing and histological examination if found to be Pap positive.

Results: The most common (59.6%) presenting complaint was excessive white discharge. Pap smear screening revealed nearly 77% and 23% of participants had ASCUS and LSIL. Only 3.8% and 7.7% participants were positive for colposcopic and HPV testing. Histopathology report revealed 57.7%, 13.5% and 13.5% women had chronic cervicitis, adenomyosis and chronic cervicitis with adenomyosis, respectively. Evidence of early cervical carcinoma was seen in 15.4% specimens of which 7.7% were CIN I whereas CIN II and 'early invasive carcinoma' were 3.8% each. Both the patients with positive colposcopic finding had CIN II. Out of 7.7% women positive for HPV, 3.8% had CIN I and 3.8% had early invasive Ca.

Conclusion- Considerable proportion of young women revealed to have reversible precancerous lesions indicating the need of screening by a suitable effective screening test at early age.

Keywords: cervical cancer, screening, Pap smear, colposcopy, Human Papilloma Virus

I. Introduction

Cancer of uterine cervix is second most common cancer among women globally.¹ More than 85% cases and 88% deaths from cervical cancer occur in developing countries. India alone accounts for 1/4th of global cervix cancer burden.² Majority of cases in developing countries present in advanced stages.³ This large scale morbidity and mortality is unwarranted because recent studies clearly substantiated that cervical cancer develops from well-defined precursor lesions persisting for a variable time, and that cervical cancer is preventable and curable if detected in early or pre-invasive stages, the detection of this precancerous lesions is of utmost importance.⁴ Women often don't experience symptoms until the disease has advanced. Hence, detection of cervical pre-cancers and early stage cancer is possible only through screening. Morbidity and mortality due to cervical cancer declined dramatically in high income countries after introduction of cytology based screening program and availability of quality diagnostic and treatment facilities.⁵ In contrast, millions of women in developing countries are never screened for cervical cancer in their entire life time.⁶ Cervical cancer screening using cervical cytology (the Pap smear) has been an extremely successful public health intervention, achieving reductions in cervical cancer incidence of up to 80% where practiced effectively.⁷ Despite its success, cytology has important limitations, high false-negative (thereby low sensitivity) results being the most important.⁸ The decrease in incidence of cervical cancer after introduction of Pap testing in resource-rich countries has recently leveled off, and frequent retesting is required to achieve an acceptable sensitivity because of low sensitivity of Pap test.⁵ Human papilloma virus (HPV) infection is now recognized as the main cause of cervical cancer. Current research has focused on development of screening strategies incorporating HPV testing and other methods as adjunct to cytology.⁸ Large randomized controlled trial has established that as compared with Pap

testing, HPV testing has greater sensitivity for detection of cervical intraepithelial neoplasia.⁹ With this background the present study was contemplated with the following objectives:

II. Objectives

1. To find out magnitude and pattern of cellular atypia and dysplasia in terms of ‘atypical squamous cells of undetermined significance (ASCUS)’, ‘low grade squamous intraepithelial lesion (LSIL)’ or ‘high grade squamous intraepithelial lesion (HSIL)’ among clinically suspected cervical cancer among OPD patients
2. To evaluate the ASCUS, LSIL and HSIL cases with colposcopy, HPV testing and histopathology

III. Materials And Methods

A descriptive cross sectional study was conducted from February, 2013 to January, 2014 at Ramakrishna Mission Seva Pratishthan, Vivekananda Institute of Medical Sciences (RMSPVIMS); 99, Sarat Bose Road, Kolkata-26 which is a tertiary care teaching institution with full-fledged Obstetrics and Gynaecological service catering about 8000 patients at out-patient department (OPD) every year. Study population for the present study was the married women of 21 to 45 years of age attending gynaecology OPD with chief complaints of abnormal uterine bleeding, white discharge per vagina and post coital bleeding of more than 6 weeks duration which arouse suspicion about cervical carcinoma. Women with co-morbidity like Dysfunctional uterine bleeding- requiring hysterectomy, pregnancy were excluded.

Eligible women were interviewed for base line information like age, parity, education, occupation and socioeconomic status and underwent general, systemic as well as local per speculum examination and per vaginal examination. Then, they were advised to have routine Pap smear testing according to World Health Organization cervical cancer screening guidelines following a course of antibiotic, if seemed required. Those with the abnormal cytological report (either ASCUS/ LSIL) were undergone HPV DNA testing and colposcopy guided biopsy for histological evaluation. A predesigned pretested semi structured schedule was used for data collection via interview, clinical examination as well as laboratory methods. Among 1576 patients screened to be eligible during data collection period only 55 participants were found positive findings on Pap smear examination. However, out of 55, 52 gave consent for other tests. It was the arbitrary sample size for the study.

IV. Results

Most of the study participants (61.5%) belonged to 40-45 years with average age of 39.8±5.81 (mean±sd) within a range of 22(23-45) and with a median of 41.5 years. Most of them (71.1%) were home makers by occupation and majority (30.8%) was educated up to higher secondary (HS) level. (Table-1)

Table-1: Distribution of participants as per socio demographics (n=52)

Socio-demographic attribute		Frequency	Percentage
Age group (yr)	21-29	4	7.7
	30-39	16	30.8
	40-45	32	61.5
Occupation	Home maker	37	71.1
	Service	8	15.4
	Business	7	13.5
Education	Primary	2	3.8
	Middle school	6	11.5
	Madhyamik	14	26.9
	Higher secondary	16	30.8
	≥Graduate	14	26.9

Average age of marriage was 22.1±4.32 (mean±sd) within a range of 17(15-32) and a median of 21.5 years. About 58% experienced more than three pregnancy along nearly half (48.1%) with history of 02 abortions and 15.4% with history of 03 abortions. Equal proportion (30.8%) of the participant used oral contraceptive pill (OCP) or adopted ligation as method of contraception. One fourth of study subjects used natural family planning method to prevent conception. The most common (59.6%) presenting complaint was excessive white discharge

while 20.1% and 19.2 % women reported abnormal bleeding per vagina and postcoital bleeding, respectively. (Table-2)

Table-2: Distribution of participants according to obstetric background and presenting complaints. (n=52)

Attributes		Frequency	Percentage
Age at marriage (yr)	15-18	10	19.2
	19-22	22	42.3
	23-26	12	23.1
	27-30	6	11.5
	31-34	2	3.8
Predominant contraceptive use	OCP	16	30.8
	Ligation	16	30.8
	Barrier method	7	13.5
	Natural method	13	25.0
History of abortion	Zero	6	11.5
	One	13	25.0
	Two	25	48.1
	Three	8	15.4
Pregnancy	<2	2	3.8
	2-3	20	38.5
	>3	30	57.7
Chief complain	Excessive white discharge	31	59.6
	Abnormal bleeding	11	21.2
	Postcoital bleeding	10	19.2

Pap smear screening revealed nearly 77 (76.9) % of participants had ASCUS and rest (23.1 %) was positive for LSIL. (Fig.1)

Among 52 study subjects only 3.8% were found to have positive colposcopic findings and 7.7% women were found to be HPV positive.

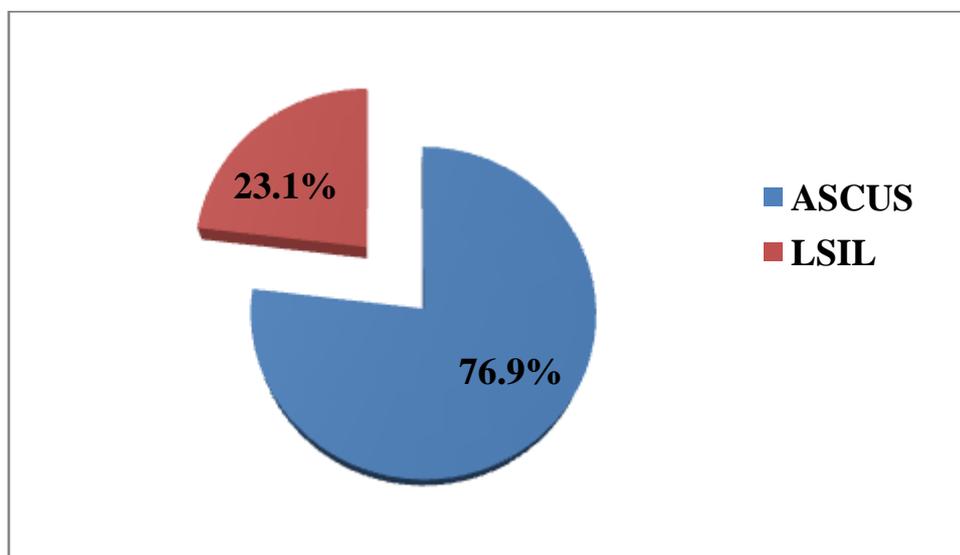


Fig-1: Distribution of participants as per Pap smear results

Histopathology report revealed that majority (57.7%) had chronic cervicitis. Around one seventh (13.5%) women were found to have adenomyosis and same the proportion was also reported to have chronic cervicitis with adenomyosis. Evidence of early cervical carcinoma was seen in 15.4% specimens of which 7.7% were CIN I whereas CIN II and ‘early invasive carcinoma’ were 3.8% each. Both the two participants with positive colposcopy had CIN II. Among 7.7% participants positive for HPV, CIN I and ‘early invasive Ca’ were detected in 3.8% each. (Table-3)

Table-3: Distribution of participants as per laboratory results (n=52)

Laboratory results		Frequency	Percentage
HPV	Positive	4	7.7
	Negative	48	92.3
Histopathology	CIN I	4	7.7
	CIN II	2	3.8
	Early invasive Ca	2	3.8
	Adenomyosis	7	13.5
	Chronic cervicitis	30	57.7
	Chronic cervicitis with adenomyosis	7	13.5

V. Discussion

It was revealed from the present study that majority (61.5%) of the women with abnormal Pap smear was in age group 40 years or more and this result is corroborating with the study carried out by Molden T et. al.⁷ and also Sankaranarayanan et. al. in India.¹⁰

Proportion of both ASCUS and LSIL wasn't found to be significantly different across the groups with age at marriage <20 years and ≥20 years. This was contrary to the observation made by Sherris J et.al.¹¹

One study performed in Bangladesh by Urmila Banik et. al. showed that among the total of 1699 patients who had their Pap smear done, 139 (8.18%) revealed epithelial cell abnormality with a break up of 6.36 % LSIL, 1.18% HSIL and 0.18% cases of ASCUS.¹² In another study carried out by Edelman et.al. Pap smear was performed in 29295 females over a period of one year and the Pap smear abnormalities were as follows: 9.9% ASC-US, 2.5% LSIL, 0.6% HSIL and 0.2% invasive cancer.¹³ In the current study, Pap smears was done for suspected cervical cancer patients screened during one year of study period showed 76.9% ASCUS and 23.1% LSIL revealing that proportion of ASCUS was more than LSIL which is similar to findings obtained by Edelman et. al.¹³ but not with the study of Urmila Banik et.al.¹² in Bangladesh. This difference might be due to different study population belonging to different races and geographical areas with different socioeconomic status and small sample size as well.

In a study by Papa Dasari et. al. in 2010 Pap smear was done for persistent symptoms with white discharge per vagina in 44.7% cases, abnormal bleeding per vagina for 12% cases and post coital bleeding in 06% cases.¹⁴ The corresponding figures in the present study were 57.7%, 23.1% and 19.2%, respectively. In this study out of 1576 symptomatic women, 55 i.e. 3.48% were Pap smear positive. Those who underwent further evaluation, 3.8% and 7.7% participants were found to have positive findings in colposcopy and HPV testing who in turn were found to have higher grade lesions on histopathological examination.

Abnormal cervix is a common nonspecific finding on speculum as well as cytological examination and many cases may be wrongly interpreted as cancerous or precancerous lesions leading to unnecessary 'panic' hysterectomies out of cancer phobia in minds of patients and treating doctors. Colposcopy has proved to be an excellent method, for distinguishing a normal cervix from a cervix with high grade lesions and invasive cancer.¹⁵ Modern colposcopy is an intermediate link between cytology and histology. Its drawback lies in possible over interpretation and thus potential over treatment of low grade lesions which otherwise regress in majority (80%) with a risk of progression to invasive cancer in only 1% of cases. HPV DNA typing has emerged as a triage procedure to find out those patients with LSIL who have a high potential to progress to invasions.¹⁵

Similar picture is depicted by the findings of the present study e.g. all cases were positive for Pap smear, few of them had advanced lesion(s) detected by colposcopy and confirmed via histological examination or potentially serious lesion as indicated by positive HPV DNA test and histopathology. Though cotesting seems

to be hundred percent effective, the cost is prohibitive, specially in resource poor country where the most efficient and effective strategy for detecting and treating cervical cancer precursors may be to screen using either VIA (visual inspection with acetic acid) or HPV DNA testing and then to treat using cryotherapy (freezing).¹⁶

Almost all the patients, who were married and attending OPD of G&O with gynaecological problems in this institution undergo a Pap test. Even if the Pap reports were abnormal, unfortunately many of these patients did not turn up for further evaluation. Moreover, the study conducted with arbitrary small sample size selected purposively might have limited its external validity which requires a large scale study with representative sample.

Conclusion

Considerable number of young women revealed to have precancerous lesions namely atypical and or low grade squamous cellular changes which are usually reversible. Large scale screening programme using appropriate effective screening test along with close follow up by a network of health institutions of different levels, voluntary organizations is the need of the hour.

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