

Original article

Epidemiological profile of cervical lesion on pap smear cytology and histopathological finding in kosi region of Bihar

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Abstract:

With decreasing incidence of cervical pathology in western world due to increasing awareness and screening programme. Contrary to it in India and developing countries cervical lesion, particularly cervical carcinoma is the leading cause of increasing morbidity, mortality and financial burden on society. The present study is an insight into the epidemiological profile of cervical lesion on Pap smear and histopathology finding in Kosi region of Bihar. The study was carried over the period of 2 years 8 months. Total 154 patients were enrolled in this study and were analysed for age, socio-economic status, parity, age at first pregnancy and symptoms using Pap smear with histopathological finding of cervical lesions. Data were analysed of which 79.23% (122) patients were in age groups 21-40 years, 72.08% (111) were from low socio-economic status, and 70.78% (109) were with parity 4 and more. 66.88% (103) patients delivered their first child below 20 years of age. 69.49% (107) patients presented with foul smelling vaginal discharge and pelvic pain. On pap smear and histopathological findings preinvasive (dysplasia, LGSIL, HGSIL) and invasive stage (carcinoma) constituted 26.61% (41) cases. The epidemiological pattern of cervical lesion in kosi region of Bihar is different from other study with presentation in younger age groups, high parity and markedly increased incidence of premalignant and malignant lesion on pap smear and histopathology findings.

Keywords: LGSIL; HGSIL; carcinoma

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Introduction:

Cervical lesions are extremely common particularly inflammation of cervix which includes non specific and specific inflammatory conditions like syphilis, trichomonos vaginalis, tuberculosis, candidacies. Besides these lesion of cervix is extremely vulnerable to development of preinvasive and invasive lesion. The incidence and mortality due to cervical carcinoma had declined in North America and Europe during last 50 Years as an outcome of cervical screening¹. In developing countries like India, China, Bangladesh, Pakistan its incidence is high and accounts for one of the most common cause of death of women due to cervical carcinoma in India^{2,3}. Nationwide, the disease accounts for an estimated 24% of cancer in India among women compared with 20 % for breast cancer⁴. India

National cancer control programme emphasizes the importance of early detection and treatment. The increasing incidence is attributed to illiteracy, poverty, early age of marriage and pregnancy high parity and lack of awareness of proper screening test and concern for the symptoms and rural health practices involving indigeous medical quackery⁵. The pap smear cytology and subsequent histopathology in carcinoma patents was done. Pap smear screening test is done to pick up inflammatory and preinvasive changes in cervical lesion so that treatment at these early stages will prevent future development of invasive cervical cancer. The pap smear evaluation for cervical lesion was classified on CIN and Betheseda system⁶.The present study was aimed at identifying the major risk factors involved in predisposition of cervical lesion by using pap smear as screening method and histopathology done in carcinoma

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patients thus helping the society in reducing morbidity and mortality due to cervical carcinoma.

Material & Method:

The present study was done over the period of 2 years 8 months (June 2007 to March 2010). The study was conducted among the patients attending the Gynecological OPD and IPD, and referred to Pathology department for Pap smear screening & histopathology in suspicious cases at Katihar medical college Katihar, Bihar. Patients enrolled in this study were assessed for following parameters with respect to age, socioeconomic status, parity, age at first pregnancy, clinical presentation by using pap smear and histopathology findings. Among 154 patients 41 patients were diagnosed as dysplasia, LGSIL, HGSIL and carcinoma cervix⁷. There was no exclusion criteria in this study, so all the smear were included in the study. The samples were collected using Ayer’s spatula. The smears were then fixed in alcohol and stained using the Papanicolau’s technique. All the smears of 154 patients were analyzed and categorized for different age groups in this study.

Results:

Table 1 Majority of patents were in age group 21-40

Table 1 : Age wise distribution of cases

Age groups (Years)	No of cases	Percentage (%)
< 20 years	3	1.95
21-30	55	35.72
31-40	67	43.50
41-50	21	13.64
51-60	8	5.19

years, accounting for 79.21% (122). The youngest case was 18 year old girl with LGSIL. Mean age of presentation in the study was 34.03 years. Table 2.

Table 2 : Distribution of cases on socio-economic status

Socio -economic classes	No of cases	Percentage
Low	111	72.08%
Middle	35	22.73%
High	8	5.19%

Since majority of patient were from rural areas (81%), socio-economic status of these patients were low constituting 72.08% (111). Only 8 patient (5.19%) were from high socio-economic status.

Modified Prasad’s Classification adjusted with current price index was used to determine socio-economic status⁸. Table 3 maximum numbers of cases

Table 3 : Parity wise distribution of cases

Parity	No of cases	Percentage
Nulliparous	10	6.49%
Parity <4	35	22.73%
Parity >4	109	70.78%

70.78% were with parity 4 or more, only 6.67% were nulliparous and 22.73% were with parity less than 4. Among patients with parity 4 or more, 33 patients were with parity more than 6 who have on pap smear and histopathology findings suggestive of premalignant, malignant lesion corroborating the finding that increase parity was one of the major risk factor for cervical lesion. Table 4 Maximum num-

Table 4 : Distribution of cases according to age at first pregnancy.

Age at first pregnancy	No of cases	Percentage
<20 Years	103	66.88%
21-30 Years	36	23.38%
31 and above	5	3.25%
Never conceived (Irrespective of age)	10	6.49%

bers of patients 66.80% (103) have their first pregnancy at age less than 20 years. 23.38% (36) had first pregnancy between 21-30- years. 6.49% (10) patient never conceived. Table 5 About 69.4% (107)

Table 5: Distribution of cases according to symptoms

Symptoms	No of cases	Percentage
Foul smelling vaginal discharge with pelvic pain	107	69.49%
Haematuria	36	23.37%
Dysuria/ dyspareunia	11	7.14%

had foul smelling vaginal discharge and pelvic pain as most common presenting complain. 23.37% (36) had haematuria accounting for the second most

common symptom in this study. Dysuria and dyspareunia was seen in 7.14% (11) patients. Haematuria was seen mostly in 41 patients diagnosed with premalignant and malignant lesions on pap smear and histopathology findings. Table 6 Findings suggest 51.29% (79) patients were diagnosed with inflammatory changes specific to underlying etiology. 22.07% (34) patients were with normal or non specific cervicitis, 26.61% (41) patients were diagnosed with premalignant and malignant changes on pap smear and histopathology findings.

Pap smear & HPE finding	No of cases	Percentage
Non specific cervicitis	34	22.07%
Specific cervicitis with inflammatory changes like T. Vaginalis, candidiasis, tuberculosis, syphilis.	79	51.29%
Acute inflammatory cells with dysplasia, LGSIL, HGSIL	17	11.03%
Carcinoma	24	15.58%

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Discussion:

Cytology of cervical lesions detect preinvasive, invasive carcinoma in addition to specific, nonspecific inflammatory condition. Thus cervical cytology is now a well established component of preventive health protocols for women. The purpose of doing cytology of cervical lesion and histopathology in suspicious cases is to detect cervical cancer in its precursor stage. Natural progression of these precursor is unclear some regress, some remain static for considerable period of time while other have carcinogenic potential giving rise to invasive carcinoma.

As cytology is only screening procedure, abnormal smears must be confirmed by cervical biopsy. The determinants of age trends at presentation for preinvasive and invasive cervical lesion help in identification of target age groups for the implementation of cervical screening. The mean age of presentation in this study was 34.03 years, which was lower than other study done in India⁹. It is lower than the mean age for cancer cervix reported from north east Nigeria¹⁰. Presentation at early age in this study correlates with multiple risk factors like younger age of marriage, age at first pregnancy as reported in earlier study¹¹. Majority of patients from low socioeconomic status were from rural areas and illiterate, unaware of cervical screening, poor hygiene, indigenous medical quackery which correlates with other study¹². In the present study women with high parity more the six was seen in 33 patients out of 41 patients diagnosed with preinvasive and invasive cervical lesions^{13,14}. The finding of dysplasia, LGSIL, HGSIL, carcinoma in present study is 26.61% (41) patients. The high percentage of cases in present study is different from earlier study which is 6.8% (15). The study by Mishra2009 also reports 11.24% of the cases¹⁶. The findings in this study is different from other study considering that women enrolled in this study had high incidence of sexually transmitted disease, parity more than 6, early age of marriage and pregnancy.

Conclusion:

An awareness and education programmes need to be implemented to target high risk women about preinvasive and invasive cervical lesion by pap smear screening. The goal of any screening programme should be to pick up majority of the precursor lesion not frank cancer with minimum cost. It is advisable to initiate pap smear screening in women from low socioeconomic status before age of 40 years. This should be combined with HPV vaccination for the young women and public health education for all¹⁷.

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