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"PAP SMEAR : WHERE WE STAND IN PREVALANCE OF CERVICAL CARCINOMA- A 1 YEAR STUDY AT A TERTIARY HELATH CARE CENTER"

Oncology

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KEYWORDS

INTRODUCTION

Cervical cancer is the leading cause of cancer related deaths in women in developing countries like India. It's the third most common cancer in women worldwide. India has a population of 511.4 million women ages 15 years and older who are at risk of developing cervical cancer. Persistent human papillomavirus (HPV) infections constitute the strongest risk factor for cervical cancer, notably those caused by high-risk types of HPV, such as types 16 and 18, which have a high oncogenic potential.[1][2] Current estimates indicate that every year 123907 women are diagnosed with cervical cancer and 77348 die from the disease [3]. Despite the availability of a vaccine for oncogenic types of human papillomavirus (HPV) and 2 cervical cancer screening tests, the Papanicolaou (Pap) test for detecting precancerous lesions and a molecular HPV test for detecting high-risk HPV infections, cervical cancer has remained a burden for the society[4]. Till now, lack of knowledge and awareness of cervical cancer in general and of screening, were the most frequent individual level barriers [5].However, currently with better inter department coordination between gynecology, community medicine and pathology department, more and more women in reproductive age group are encouraged to undergo Pap smear examination. Pap smear is a simple, safe, non-invasive, and effective method for detection of precancerous and cancerous changes in the cervix.[6]

Aims and Objectives

- To prove usefulness of Pap smear as a tool in bring down the prevalence of cervical carcinoma by screening the precancerous lesion in an early stage before they progress to frank malignancy.
- To analyze spectrum of premalignant lesions of cervix as detected by cervical pap smear.
- To correlate the cytological and histological findings of these lesions.

MATERIALAND METHOD

All patients who visited gynecology OPD at Shri M. P. Shah Medical College , Jamnagar, Gujarat, over a span of 1 year, from September 2022 to September 2023 , for various clinical problems like vaginal discharge , post coital bleeding , post menopausal bleeding etc were included in this study. A total of 174 patients were screened with Pap smear and followed up. Smears were obtained using Ayer's spatula and spread on glass slide, placed in 95% ethyl alcohol and sent to Pathology department for cytopathological evaluation. Slides were stained with Pap stain and microscopic examination and reporting was done according to Bethesda System of reporting 2017.

The high risk patients who were advised further investigation in form of colposcopic guided cervical biopsy where followed up and upon receiving biopsy or hysterectomy specimen of the same patient , tissue was fixed in 10% neutral buffered formalin solution, processed in tissue processor, embedding in paraffin blocks and stained with routine H & E stain. Histopathological-Cytopathological correlation was done and findings were compared.

Table 1 Cytology categories and their corresponding histopathology categories.

Pap smear findings	Histopathology diagnosis considered as concordant
ASCUS	CIN I/CIN II/CIN III
ASC-H	CIN II/CIN III
LSIL	CIN I
HSIL	CIN II/CIN III
SCC	SCC

ASCUS=atypical squamous cells of undetermined significance, CIN=cervical intraepithelial neoplasia, HSIL=high-grade squamous intraepithelial lesion, LSIL=low-grade squamous intraepithelial lesion

Inclusion Criteria

1) Women presenting with abnormal vaginal discharge with abdominal pain , irregular menstruation , bleeding p/v , intermenstrual bleeding, dyspareunia , post menopausal bleed.
2) Patient on follow up from previous abnormal pap smear findings.
3) Women undergoing routine pap smear examination.

Exclusion Criteria

1) Unsatisfactory smear.
2) Biopsy or specimen with extensive necrosis or autolysis.

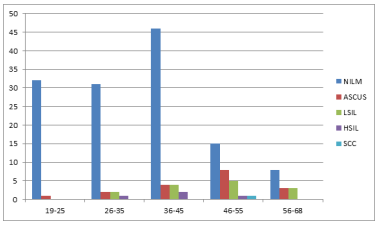
RESULT

A total of 174 patients were screened with Pap smear. Most patients belonging to age group 36-45 years (32.0%). Most common presenting complaint was abnormal vaginal discharge (48%) followed by heavy menstrual bleeding (27%) and inter menstrual bleeding/spotting (25%). Of the total 174 Pap smears performed, 169 (97%) were satisfactory for evaluation. Predominant lesion-79 cases (45.5%) identified was NILM with acute cervicitis followed by NILM 52 cases (29.7%) . ASCUS, LSIL and HSIL was detected in 10.3%, 6.9% and 1.7% cases respectively.

There was one case of keratinizing squamous cell carcinoma. All the patients with ASCUS, LSIL and HSIL were advised for close follow up. On follow up biopsies and hysterectomy specimens received for histopathological evaluation, 2 cases (1.5%) of NILM turned out to be CIN-I, while out of 18 cases of ASCUS , 7 cases (38%) were CIN-I and 2 cases (11%) were CIN-II. Of 14 cases of LSIL, 6 cases (42%) were CIN-I and 3 cases (21%) were CIN-II while out of 4 cases of HSIL, 3 cases (75%) turned out to be CIN-II and 1 case was CIN-III. A single case of squamous cell carcinoma given on cytopathological evaluation was diagnosed as keratinizing small cell carcinoma of cervix on histopathological evaluation.

Chart 1: Age wise distribution of cervical lesions on Pap smear

screening.



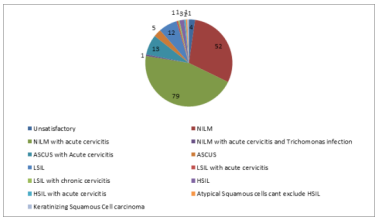


Chart 2: Spectrum of lesions identified on Pap smear examination.

Table 2 Cyto-histopathological correlation of Pap smear and cervical biopsy/hysterectomy specimens.

No of cases	Cytological diagnosis	Chronic cervicitis	Chronic cervicitis with squamous metaplasia	CIN I	CIN II	CIN III	SCC
132	NILM	126	04	02	-	-	-
18	ASCUS	06	03	07	02	-	-
14	LSIL	01	04	06	03	-	-
04	HSIL	-	-	-	03	01	-
01	SCC	-	-	-	-	-	01
169	Total	133	11	15	08	01	01

DISCUSSION

In our study, majority (32.0%) of the patients were in the age group of 36-45 years, which is comparable with the study done by Dinesh Kumar *et al, Parijat et al, Joshi et al [7] [8] [9]. Most common presenting complaint was* abnormal vaginal discharge (48%), which is comparable with the study done by Kothari *et al*. and Atla et al [10] [11] In a study carried out by Pushp Lata Sachan *et al.*,[12] the inadequacy rate was 6.42%, negative for malignancy in 48.84%, and 42.66% had infection or inflammation. ASCUS, LSIL, and HSIL were detected in 2.90%, 5.09%, and 0.48%, respectively. In a study carried out by Sinha *et al.*,[13] Pap smear cytology results were : 2.82% of the smears were inadequate, majority (30, 42.25%) were normal smears, followed by 26 (36.62%) inflammatory smears. Atrophic changes were observed in two (2.82%) cases. Epithelial cell abnormalities were seen in four (5.63%) cases, out of which 2.82% had ASCUS, ASC-H was found only in 1.41%, and HSIL was reported in 1.41% women. Our findings are comparable with these studies. In present study , ASCUS, LSIL and HSIL was detected in 10.3%, 6.9% and 1.7% cases respectively and there was one case of keratinizing squamous cell carcinoma these findings are comparable with the study carried out by Kulkarni *et al.* [14].

CONCLUSION

Pap smear being an excellent screening tool, when used efficiently can aid in reducing the disease burden. Cervical precancerous lesions taking years before converting to frank malignancy makes cervical cancer an ideal neoplasm for screening and early detection. Recent developments in technology adapted to low resource settings make screening and treatment of cervical precancerous lesions feasible and highly cost effective.

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Conflict of Interest: None identified so far

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