IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Perspective Study of cervical PAP smear in South Karnataka Population

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Abstract

Background: cervical infections are commonly encountered problem in women during their reproductive age group and some cases in post-menopausal due to withdrawn of reproductive hormones. Cervical PAP smear method is cost effective and useful in reproductive and post- menopausal age also.

Method: Out of 192 patients, 92 (47.9%) had pathological significance. Cervical smears were prepared by using disposable ayre's spatula fixed in 95% of alcohol and stained by conventional PAP techniques and interpreted according to guide lines of 2001 Bethesda system. 50 (fifty) histo-pathological correlations of pre invasive and invasive lesions corresponding to cervical biopsy in suspected malignancy cases were studied.

Results: Highly diagnosed PAP smear was ASCUS 43 (46.7%) followed by SCC 15 (16.3%), LSIL 14 (152.1) and least was adenoma carcinoma 1% at different age

group. Histo-pathologically also highest 19 (38%) ASCUS smear had chronic cervicitis followed 10 (20%) SCC and least 1 (2%) adenoma carcinomo

Conclusion: This PAP smear will be a tool for screening of cervical intraepithelial lesion. It will be useful to Obg and Gynaecologist oncology surgeon to treat efficiently to avoid morbidity and mortality of such patients.

Keywords: Ayre's spatula, Bethesda system, Punch biopsy, hysterectomy specimen, PAP smear.

Introduction

Cervical cytology becomes the standard screening test for cervical cancer and pre malignant cervical lesion with introduction of PAP smear in 1941 [(1)]. Cervical infections are commonly encountered problem occurring in the women of reproductive age group. They present with white discharge foul smelling odour and pruritis. Most of these infecting are diagnosed on routine papanicoloou (PAP) smear exanimation [(2)].

Cervical smear test is a cost effective test fast and acceptable to every patients can also be used in the diagnosis of genital tract infections [(3)]. Various infectious agents have been reported in addition to cervical cancer. These include ethnic factors, number of partners and sexual intercourse age of mother at first birth, steroid contraception etc[(4)]. This study will explore various lesions of uterine cervix (inflammatory and neoplasitic). Hence cervical PAP smear at different age group is evaluated and suspected cases were studied with histo-pathological biopsy.

Material and Method

Out of 192 (one hundred ninety two) patients smears 92 had pathological findings studied in pathology department of sambram Institute of Medical Sciences and research PK Halli BEML Nagar KGD Kolar (district) – 563115 Karnataka.

Inclusive Criteria: All the patients referred from Obg and Gynaecology departments. The patients aged between 20 to 80 years were studied.

Exclusion Criteria: The women previously treated for CIN, cervical intraepithelial Neoplasm and HIV infected patients were excluded from the study.

Method: Out of 192 cervical smears 92 (47.9%) had pathological significant cervical smears were prepared by using disposable ayre's spatula fixed in 95% of alcohol and stained by conventional PAP techniques and interpreted according to the guide line of 2001 Bethesda system fifty (50) histo-pathological correlations of pre invasive and invasive lesions corresponding cervical biopsy (punch biopsy and hysterectomy specimen) slides were studied. Clinical history of each patients was noted for clinical records.

The duration of study was from June-2016 to July-2017

Statistical analysis: abnormal cervical smears and histopathology were classified with percentage. The statistical analysis was performed in SPSS software.

Observation and Results

Table-1: Study of prevalence of abnormal cervical smears in different age group 43 (46.7%) Ascus cervical smear had 2 in 21-30, 11 in 31-40, 21 in 41-50, 4 in 51-60, 3 in 61-70, 2 in 71-80.

5 (5.4%) AGUS – 2 in 31-40, 2 in 41-50, 1 in 51-60

14 (15.2%) LSIL – 1 in 20-30, 7 in 31-40, 4 in 41-50, 2 in 51-60 years of age

10 (10.8%) HSIL – 1 in 20-30, 2 in 31-40, 3 in 41-50, 2 in 51-60, 1 in 61-70, 1 in 71-80 years of age

15 (16.3%) SCC – 3 in 31-40, 2 in 41-50, 6 in 51-60, 4 in 61-70 years of age

4 (4.34%) Malignancy – 1 in 41-50, 1 in 51-60, 1 in 61-70, 1 in 71-80 years of age

Table-2: Correlation PAP smear with biopsy histopathology – 24 Ascus had 19 (38%) chronic cervicitis, 2 (4%) normal cervix, 3 (6%) CIN, 2 AGUS – had 1 (2%) had chronic cervicitis, 1 (2%) normal cervicitis,

4 LSIL – had 2 (4%) chronic cervicitis, 1 (2%) normal cervicitis, 1 (2%) Decubitus ulcer,

8 HSIL – 1 (2%) Reparative change, 2 (4%) Chronic cervicitis, 1 (2%) Normal cervicitis, 2 (4%) Micro INV CA, 2 (4%) CIN

11 SCC – had 10 (20%) SCC, 1 (2%) Adeno carcinoma

1 Adeno carcinoma – 1 (2%) Adeno carcinoma

Discussion

Present perspective study of cervical PAP smear in South Karnataka Population. In the different age group study 43 (46.7%) ASCUS was highest in 41-50 age group 21, followed by 30-40 age group 11 cases, 5 (5.45%) AGUS were in 31-40, 41-50 age group 14 (15.2%), LSIL were highest in 31-40 age group (7 cases), followed by 41-50 age group (4 cases), 10 (10.8%) HSIL were highest in 41-50 age group (3 cases), followed by 31-40, 51-60 age group (2 cases), 15 (16.3%) was highest in 51-60 age group (6 cases), followed by 61-70 age group (4 cases), 4 (4.3%) Malignant positive found in 41 to 80 age group (1 case in each age group) and 1 (1.8%) Adeno carcinoma was observed (Table-1). In the correlation of PAP smear with histo-pathological biopsy study – ASCUS study – 19 (38%) had chronic cervicitis, 2 (4%) Normal cervicitis, 3 (6%) CIN. In AGUS 1 (2%) chronic cervicitis, 1 (2%) Normal cervicitis, In LSIL 2 (4%) chronic cervicitis, 1 (2%) normal, 1 (2%) Decubitus ulcer, HSIL – 8 had 1 (2%) Reparative change, 2 (4%) chronic cervicitis 1 (2%) normal cervicitis, 2 (4%) Micro INUA CA 2 (4%) CIN

SCC 11 had 10 (20%) SCC, 1 (2%) adono carcinoma 1 (2%) had adeno carcinoma (Table-2). These findings are more or less in agreement with previous studies [5][6][7].

Prevalence of abnormal tissue inflammation (dysplasia) is often associated with multi parity or parity women [8]. Women exposure to sexual intercourse at early age is at the greater risk of dysplasia. Hence ideal age for first coitus being 22-23 years [9] It is reporter that Muslim women are less prone for any infection or cancers as compared to non-Muslim women because Muslim men are circumcised and carry least infection during coitus [10].

Majority of the women studied belong to middle socio-economic status are un-aware of hygiene during menses period use dirty clothing leads to risk of infections.

LSIL (Low grade squamous intraepithelial lesion) is associated with intra menstrual and post-coital bleeding and HSIL (High grade squamous intro-epithetical lesion) is observed in post menopausal which is treated as bad sign because it is the indication of cervical cancer. However cervicitis is the most common finding in PAP smear in reproductive women [11]. Various screening test for cervical like pap smear, liquid pap cytology, automated cervical screening techniques Lugol's Iodine and acetic acid application, speculoscopy, cervicography should be used for early detection of pre-malignant lesion.

Summary and Conclusion

This perspective study of cervical PAP smear screening for early detection of premalignant and malignant lesion of cervix. For Larger, a study of it cervical cytological abnormality along with detection of common HPV stains in cervical cancer is common in Indian population. But this study demands further genetic, nutritional, patho-physiological, hormonal, studies because exact pathogenesis of cervical cancer is still un-clear.

Table – 1

Study of prevalence of abnormal cervical smears in different age group

Diagnose	21-30	31-40	41.50	51-60	61-70	71-80	Total
ASSUs	2	11	21	4	3	2	43 (46.7%)
AGUS	--	2	2	1	--	--	5 (5.45%)
LSIL	1	7	4	2	--	--	14 (15.2%)
HSIL	1	2	3	2	1	1	10 (10.8%)
SCC	--	3	2	6	4	--	15 (16.3%)
Malignant positive	--	--	1	1	1	1	04 (4.34%)
Adeno carcinoma	--	--	--	--	--	1	01 (1.4%)
Total	4	25	33	16	9	5	92

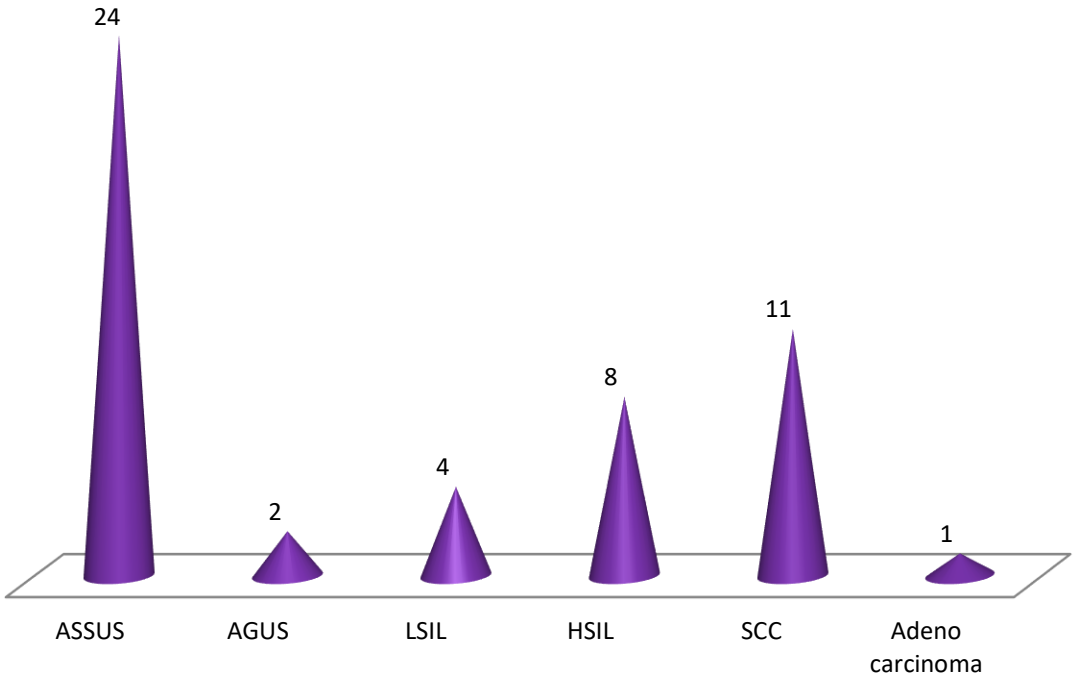
ASSUS = Atypical squamous cell of undermined significance, AGUS= Atypical grandular cell of undermined significance, LSIL = Low grade squamous intraepithelial lesion, HSIL = High grade squamous intra epithelial Lesion, SCC = Squamous cell carcinoma, CIN = Cervical Intra epithelial Highest 43 (46.7%) ASCUS cervical smears and least 1(1.8%) adeno carcinoma was noted

Table – 2

Correlation of PAP smear and cervical biopsy histopathology

PAP smear	Number	Histopathology	Number with percentage (%)
ASSUS	24	Chronic cervicitis	19 (38%)
		Normal cervictis	2 (4%)
AGUS	2	Chronic cervicitis	1 (2%)
		Normal cervicitis	1 (2%)
LSIL	4	Chronic cervicitis	2 (4%)
		Normal cervicitis	1 (2%)
		Decubitus ulcer	1 (2%)
HSIL	8	Reparative change	1 (2%)
		Chronic cervicitis	2 (4%)
		Normal cervicitis	1 (2%)
		Micro INV CA	2 (4%)
		CIN	2 (4%)
SCC	11	SCC	10 (20%)
		Adeno carcinoma	1 (2%)
Adeno carcinoma	1	Adeno carcinoma	1 (2%)
Total	50	--	50

Table – 2
Correlation of PAP smear and cervical biopsy histopathology



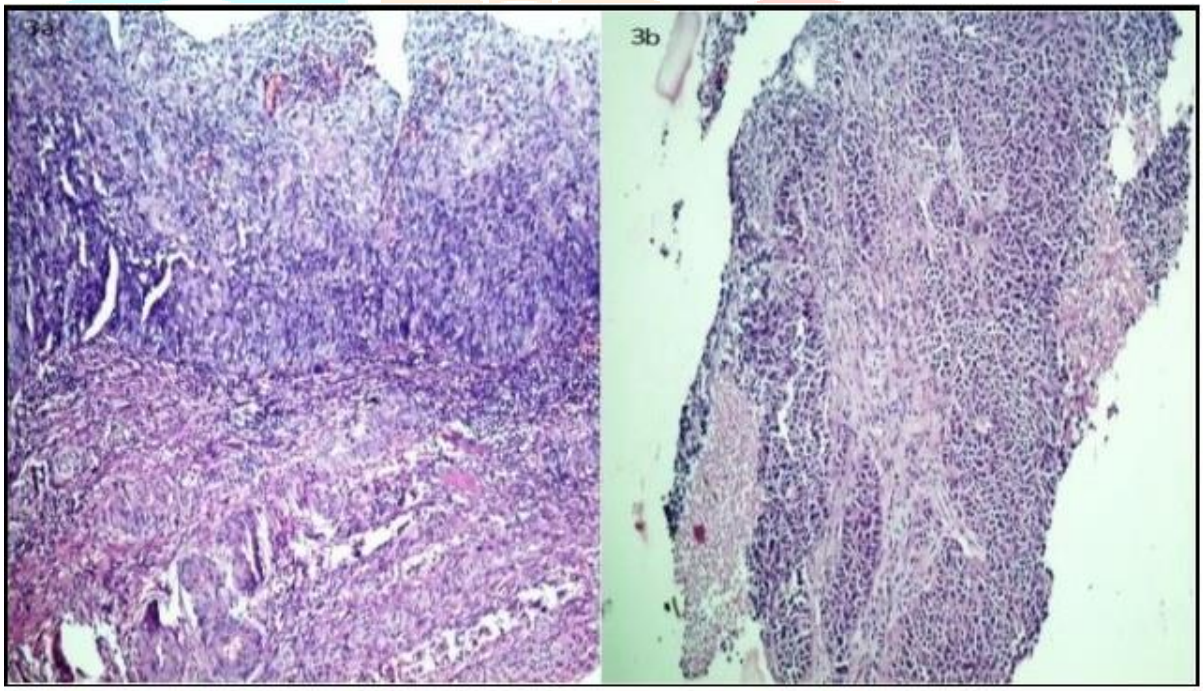
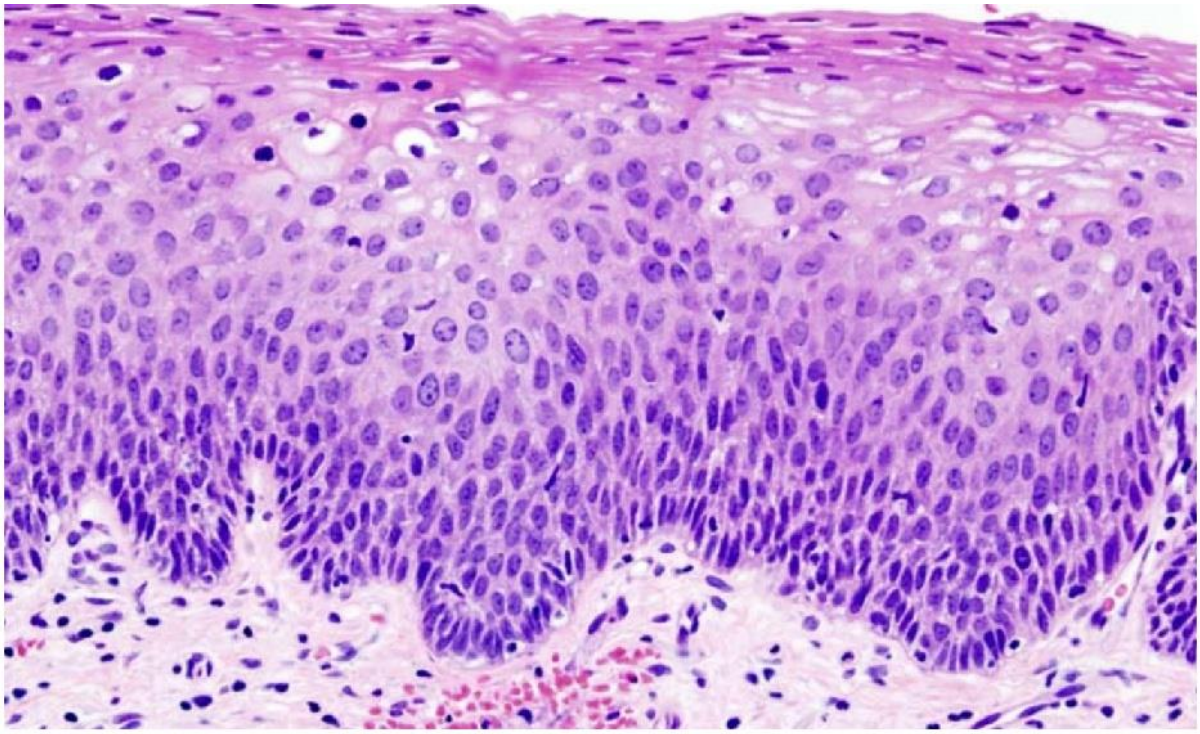


Figure-1: Cervical Pap smear study and detection of abnormal epithelium

Figure-2 Cervical cancer



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