International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622

www.gynaecologyjournal.com
2019; 3(4): 234-237
Received: 23-05-2019
Accepted: 27-06-2019

Dr. Chippy Tess Mathew
Associate Professor, Department of OBG, PSG Institute of Medical Sciences and Research Coimbatore (Affiliated To the Tamil Nadu Dr. MGR Medical University), Tamil Nadu, India

Dr. Uma Maheswari
Associate Professor, Department of OBG, PSG Institute of Medical Sciences and Research Coimbatore (Affiliated To the Tamil Nadu Dr. MGR Medical University), Tamil Nadu, India

Dr. Arthi Ramu
PSG Institute of Medical Sciences and Research, Coimbatore (Affiliated To Tamil Nadu Dr. MGR Medical University) Tamil Nadu, India

Correspondence
Dr. Chippy Tess Mathew
Associate Professor, Department of OBG, PSG Institute of Medical Sciences and Research Coimbatore (Affiliated To the Tamil Nadu Dr. MGR Medical University), Tamil Nadu, India

One year retrospective analysis of PAP smears-from a tertiary hospital in Tamil Nadu

Dr. Chippy Tess Mathew, Dr. Uma Maheswari and Dr. Arthi Ramu

DOI: https://doi.org/10.33545/gynae.2019.v3.i4d.320

Abstract
Introduction: Cervical cancer is one of the leading causes of maternal mortality in India and worldwide, it usually takes 3–7 years for high-grade changes in cervical cells to become cancer. There are many effective screening tests for cervical cancer. PAP smear is one such test
Aim: To analyse the pap smears done in our hospital for a period of one year
Objectives: 1). To determine the percentage of abnormal smears detected 2). To analyse the myriad of findings in a PAP smear.
Materials and methods: It is a Retrospective Observational study, Data was collected from the PAP smears taken in the Gynaecology department outpatients and master health check-up of our hospital. Data was collected for a period of one year from January 2017 to December 2017.
Results: Around 2333 PAP smears were analyzed over a period of one year, of it 885 was from our OPD and 1448 was from the master health check-up, the detection of precancerous lesion was 1.2%, in addition to detecting pre-cancerous lesions, additional information showed a variety of infections like a Candida, Trichomonas, Actinomyces, etc.
Conclusion: Cytology based screening is one of the most cost effective and easy method of cervical cancer screening.

Keywords: Ca cervix, Pap smear, screening, pre malignant lesions

Introduction
Cervical cancer is one of the leading causes of morbidity and mortality in women worldwide. Cervical cancer is the fourth most frequent cancer in women with an estimated 570,000 new cases in 2018 representing 6.6% of all female cancers. The high mortality rate from cervical cancer globally could be reduced through a comprehensive approach that includes prevention, early diagnosis, effective screening and treatment programmes [1]. The screening methods range from VIA (visual inspection with acetic acid) and VILI (visual inspection with Lugol's Iodine in low resource setup where pathologist is not available, to the PAP smear and liquid base cytology with or without HPV testing and sophisticated colposcopy in high resource centres.

Materials and Methods
This is a retrospective study conducted in PSGIMSR. Data was collected from the PAP smears taken in the Gynaecology department outpatients and master health check-up.
Of our hospital. Data was collected for a period of one year from January 2017 to December 2017

Inclusion criteria
1) All PAP smears taken in our OP
2) All PAP smears taken as a part of master health check-up in our hospital

Exclusion criteria
1) Women without sexual exposure

Procedure
Cells from ectocervix and endocervix are collected simultaneously with the broom like spatula. The central bristles of the broom are inserted into the endocervical canal until the lateral bristles bend fully against the ectocervix. The sampling device is rotated 360º in the same direction five

times while maintaining gentle pressure. The broom is removed and with a single paint stroke motion the cellular sample is transferred along the long axis of the labelled surface of the slide. Minimum of two slides are taken except for vault smears where a single slide is taken. The slide is rapidly fixed by immersion in 95%ethanol and ether mix in a Koplik's jar and transferred to the cytology lab [2].

Slides are analysed by the pathologists and reported based on Bethesda classification.

Bethesda classification (2014) [3].

Specimen Type
Indicate conventional Pap smear vs. liquidbasedpreparation vs. other

Specimen Adequacy
Satisfactory fore valuation /Unsatisfactory for evaluation

Interpretation/Result
Negative for intraepithelial lesion or malignancy Non-neoplastic findings (optional to report*)*

Organisms
Trichomonas vaginalis/ *Candida* spp/ Bacterial vaginosis/ *Actinomyces* spp. /Herpes simplex virus/Cytomegalovirus

Other Endometrial cells

Epithelial Cell Abnormalities
Squamous Cell
Atypical squamous cells of undetermined significance (ASC-US) cannot exclude HSIL (ASC-H) low grade squamous intraepithelial lesion (LSIL) High-grade squamous intraepithelial lesion (HSIL) Squamous cell carcinoma

Glandular Cell
Atypical
- Endocervical cells NOS /favour neoplastic
- Endometrial cells NOS *or specify in comments*
- Glandular cells (NOS /*favour neoplastic*)

Endocervical adenocarcinoma in situ
Adenocarcinoma
Endocervical/endometrial /extra uterine/not otherwise specified

Other Malignant Neoplasms: *(specify)*
Adjunctive Testing
Computer-Assisted Interpretation of Cervical Cytology

Results
Around 2333 PAP smears were analysed over a period of one year from Jan 2017 to Dec 2017, of it 885 was from our OPD and 1448 was from the master health check-up. The age distribution, the indications for taking a smear and the cytology report was analysed and is put up in the tabular column.

Table 1: Age distribution of Pap smear

Age of the patient in years	Number of patients in MHC	Number of patients in OPD	Total	Percentage
20-29	37	68	105	4.50
30-39	221	274	495	21.22
40-49	398	340	738	31.63
50-59	493	143	636	27.26
60-69	256	45	301	12.90
70-79	37	15	52	2.23
80-89	6	0	6	0.26
Total	1448	885	2333	100%

Table 2: Number of vault smear

Number of vault smears in master health checkup	215
Number of vault smears in OPD	25
Total	240
Percentage of vault smears	10.29%

Table 3: Indications for Pap smear

Indication	No of patients in MHC	No of patients in OPD	Total	Percentage
AUB		102	102	4.37%
Leucorrhoea		107	107	4.59%
Itching		6	6	0.26%
Mass P/V		1	1	0.04%
Pain Abdomen		36	36	1.54%
Post-Menopausal Bleeding		17	17	0.73%
Screening	1448	604	2052	87.96%
Strawberry vagna		1	1	0.04%
Post Ca Follow Up			11	0.47%
Post Ca Ovary		1		
Post Ca endometrium		5		
Post ca fallopian tube		1		
Post Lletz		2		
Post Ca cervix		2		
Total	1448	885	2333	100%

Table 4: Analysis of cytology report

Report	Number in MHC	Number in OPD	Total	Percentage	Total
Negative for IEL/Malignancy	849	413	1262	54.10%	Niel 2280 (97.73%)
Inflammation	406	319	725	31.07%	
Organisms					
Candida	93	62	155	6.64%	
BV	71	52	123	5.27%	
TV	4	9	13	0.56%	
Actinomycosis	0	2	2	0.09%	
Epithelial cell abnormalities			24	1.03%	Abnormal 24 (1.03%)
Squamous cells					
ASC-US	4	4	8		
ASC-H	2	2	4		
LSIL	2	2	4		
HSIL	0	4	4		
Glandular Cells					
AGUS	0	4	4		
Other Malignant Cells	0	0	0	0	
Unsatisfactory	17	12	29	1.24%	29 (1.24%)
Total	1448	885	2333	100%	2333(100%)

Table 5: Agewise Analysis of Abnormal Smears

AGE	Ascus	ASC-H	AGUS	LSIL	HSIL	SCC	Total Smears	
21-30					1		1	O.04%
31-40	1		2		1		4	O.17%
41-50	4	3	1		1		9	O.39%
51-60	1		1	4	1		7	0.30%
61-70	1	1					2	O.O9%
71-80	1						1	O.O4%
Total	8	4	4	4	4		24	1.03%
	O.34%	O.17%	O.17%	O.17%	O.17%	0	1.03%	

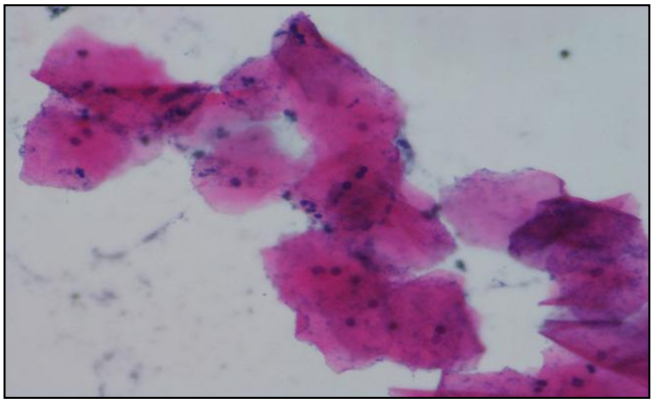

Fig 1: Bacterial Vaginosis

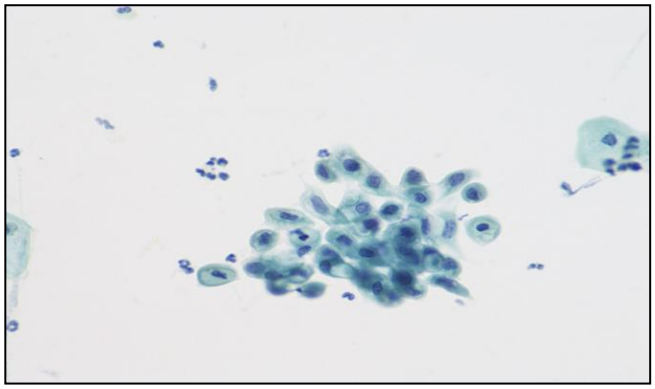

Fig 3: LSIL

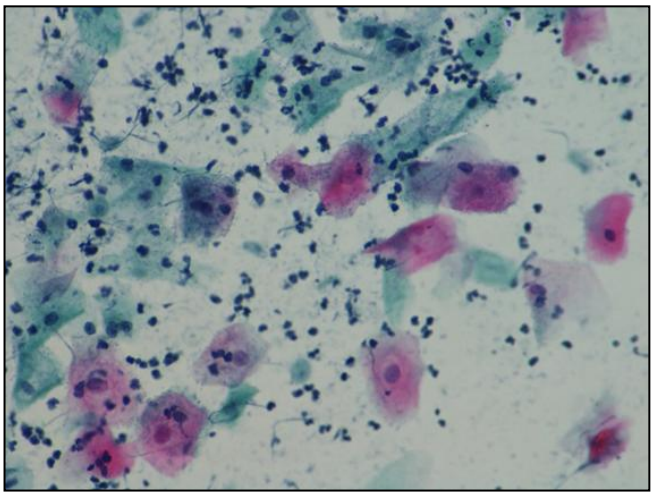

Fig 2: Trichomonas Vaginalis

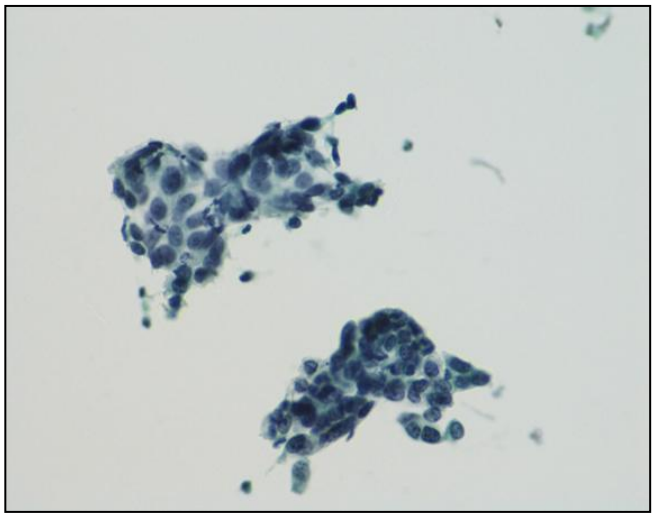

Fig 4: HSIL

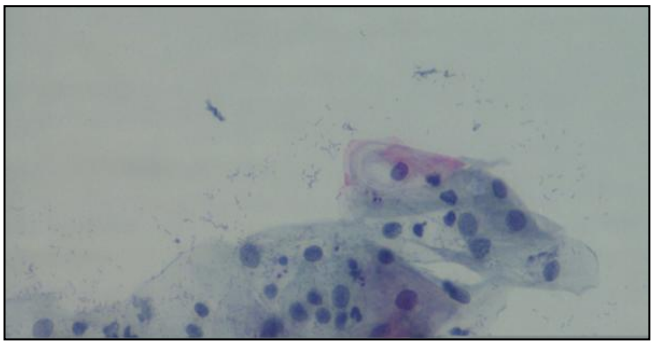

FIG 5: Candida

Discussion

PAP smears are analytical tools for screening of cervical cancer. It is a cost effective way for detecting the pre-invasive cervical lesions. In addition it also gives supplementary data on a variety of infections like Candidiasis, Bacterial vaginosis etc.

Of the 2333 pap smears taken over a period of one year, the maximum number of patients was of the age group 40-49 years accounting for 31.63%. The lowest age of the patient was 20 years –a married woman with severe itching and who's Pap smear showed inflammation. The oldest lady was 84 years old who came for a routine screening and the report was negative for IEL. According to a study by Kalyani *et al*. [4] the rate was 28.7%in the same age group and 32.5% in the 30-39year group which was maximum. According to Vijayalakshmi *et al.* [5], the maximum number of patients was in the age45-55 age group which was 34% The most common indication for Pap smear was for routine screening, accounting for 87.96% of the smears, Leucorrhea was the next common indication in those patients in the OPD- 4.59% with AUB being close behind - 4.37%. There were 0.4% of post Malignancy surgery follow up. Post ca endometrium being the commonest. The most common indication was leukorrhea accounting for 30% in a study by Vijayalakshmi *et al.* [5] while the routine screening was around 23%. The high rate of screening in our study might be due to increased awareness among the city population. Around 10.29% where vault smears.

Of the 2333 smears analyzed 2280 were negative for malignancy though they detected inflammation and infections. We had a detection rate of 1.03% (24 cases) of abnormal PAP smears. of the 24 cases there were 4 each of HSIL, LSIL, ASC-H AND AGUS and 8 of ASC-US, only 50% of these patients underwent colposcopy and directed biopsies and except two LSIL all the biopsy reports confirmed the lesions. This abnormal reports-1.03% in our study is close to the study conducted by Tamrakar *et al*. [6] which was 1.7%, but was less than the international and Indian studies done by Sherpa *et al.* [7]. (3.6%) and Sankaranarayanan *et al.* [8] (3.4%) respectively. There were around 1.24% of unsatisfactory smears were opinion was not possible which iscomparable to the study by Crasta *et al.* [5] which is 1.36%, The rate of unsatisfactory smear was high in the study by Kalyani *et al.*, [5] i.e., 17.8%.

Among the negative smears -Inflammmatory smears were found in 54.1% which was comparable to the study by Patel *et al.* [10] (51.5%).In our study, the various organisms detected where candida in 6.44% followed by bacterial vaginosis in 5.27%.in the study by Kalyani *et al.* [8] the inflammatory smears where 83.1%.. candida was found in 2.03% and bacterial vaginosis in 9.8%.while Candida was 3.71% in the study by Patel *et al.* [10]. In our analysis there were two cases of Actinomycosis also and 13cases of Trichomonas Vaginalis of which one patient had strawberry vagina. The comparison of the unsatisfactory and the pathological reports in the various studies are put in a tabular column below:

Table 6: The comparison of the unsatisfactory and the pathological reports in the various studies

Diagnosis	Kalyani *et al.* [5]	Crasta *et al.* [9]	Narasimha *et al.* [3]	Sankaranarayanan *et al.* [8]	Our study
Unsatisfactory	17.80%	1.36%	24.42%	4.10%	1.24%
ASCUS	1.46%	0.37%	4.14%	8.80%	0.34%
LSIL	0.24%	0.19%	2.70%	6.20%	0.17%
HSIL	0.41%	0.61%	2.50%	1.60%	0.17%

Conclusion

PAP smear examination is an economic method for screening forcervical pre-malignant lesions and help us to deal with the global scare of cervical cancer. Mass educational and awareness programs should be conducted to increase the detection rate and

Reference

1. https://www.who.int/cancer/prevention/diagnosis-screening/cervical-cancer/en/1https://www.cytopathology.org/specimen-collection adequacy-requisition/shaws textbook
2. The Pap test and Bethesda 2014. FullText-Acta Cytologica 2015. https://www.karger.com/article/fulltext/381842
3. Solomon D. Foreword; in Nayar R, Wilbur DC (EDS): The Bethesda System for Reporting Cervical Cytology: Definitions, Criteria, and Explanatory Notes, ed 3. New York, Springer 2015. National Cancer Institute Workshop: The 1988 Bethesda System for reporting cervical/ vaginal cytologic diagnoses, 2015.
4. Kalyani R, Sharief N, Shariff S. A Study of Pap Smear in a Tertiary Hospital in South India. J Cancer Biol Res. 2016; 4(3):1084.
5. P Vijaya Lakshmi, SR Sree Gouri. Study and analysis of two hundred cervical PAP smears in our hospital. International Journal of Contemporary Medical Research. 2016; 3(9):2787-2789.
6. SR Tamrakar. Kathmandu University School of Medical Sciences, Nepal, Charul Chawla. A Clinical Audit of Pap Smear Test for Screening of Cervical Cancer Article in Nepal Journal of Obstetrics and Gynaecology· 2014
7. Sherpa AT, Clifford GM, Vaccarella S, Shrestha S, Nygård M, Karki BS *et al*. Human papillomavirus infection in women with and without cervical cancer in Nepal. Cancer Causes Control. 2010; 21:323-330.
8. Sankaranarayanan R, Thara S, Sharma A, Roy C, Shastri S, Mahé C *et al*. Accuracy of conventional cytology: results from a multicentre screening study in India. J Med Screen. 2004; 11:77-84.
9. Crasta JA, Chaitra V, Simi C, Correa M. An audit of cervicovaginal cytology in a teaching hospital: Are atypical glandular cells under-recognised on cytological screening? J Cytol. 2009; 26:69-73.
10. Hemali J Tailor, Patel RD, Prashant R Patel, Vasudha M. Bhagat Study of cervical pap smears in a tertiary care hospital of south Gujarat, India, international journal of research in medical sciences. 2016; 4(1):286-288.
11. Aparna Narasimha *et al*. An audit of Pap smear cytology Journal of south Asian federation of obstetrics and gynecology sep-dec. 2011; 3(3):121-124.