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RESEARCH ARTICLE

CERVICAL CYTOLOGY BY PAP SMEAR IN A RURAL TEACHING HOSPITAL IN TAMILNADU

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INTRODUCTION

Cervical cancer is the most common cancer in women in many less developed countries as well as among Indian women[1].Cervical cancer is the third common cancer in the world in female and fourth leading cancer for death in women[2]. There is a higher risk of cervical cancer among rural women than among urban women. Women who are sexually active are most likely to suffer from this Human papilloma virus, or HPV, is most commonly responsible for cervical cancer, which is a sexually transmitted disease. Poor nutrition, genital infections, multiple pregnancies, weak immune system, multiple sexual partners, HIV and long term use of contraceptives are also causes of cervical cancer.[3] The introduction of cytological screening by George Papanicolaou was an important contribution to cervical cancer prevention. A precancerous condition can be identified early through Papanicolaou (Pap) screening, making cervical cancer one of the most preventable cancers.

METHODS AND MATERIAL: This is a Prospective study was conducted by department of pathology, in a rural teaching hospital, Chidambaram. Cervical smears of 476 female patients of reproductive age women attending gynaecology outpatient clinics was enrolled in this study.

The procedure of clinical Pap smear includes extraction of cells from squamo-columnar junction by using ayre's spatula and then the smear will be spread over a glass slide and it will be dipped in a coplin jar with fixative (95% ethyl alcohol). The slides were sent to the Department of Pathology, where they are stained (Pap stain) and observed for the cytological study according to Bethesda scoring system, 2014 for detection of various inflammatory & epithelial cell changes. The results of the study was analysed both in a statistically and descriptive perspectives, thereby giving insight into the various cervical pathologies encountered in the reproductive age group women.

RESULTS

AGE INCIDENCE: In the present study, a high incidence of 212 cases (44.5%) was observed in 31-40 years followed by 149 cases (31.3%) in the 41-50 years.

Table 1. Age incidence

AGE	NUMBER OF PATIENTS	PERCENTAGE
20-30 Years	115	24.2%
31-40 Years	212	44.5%
41-50 years	149	31.3%
TOTAL	476	100%

CLINICAL PRESENTATION: In the present study, Leucorrhoea was the most common clinical presentation among 20-30 years with 56% of incidence. Menorrhagia was the second most common symptom with 141 cases (29.6%) Intermenstrual bleeding, Abdominal pain and dysmenorrhea was commonly seen in age group of 31-40 years. High incidence of amenorrhea was seen among 20-30 yrs of age. Mass descending pv is common in 40-50 years of age.

Table 2. Clinical presentation

CLINICAL PRESENTATION	20-30 yrs	31-40 yrs	41-50 yrs
Leucorrhoea	85 (56%)	56 (36.8%)	11 (7.2%)
Intermenstrual bleeding	1 (1.7%)	44 (72.1%)	16 (26.2%)
Postmenopausal bleeding	-	9 (12.2%)	65 (87.8%)
Postcoital bleeding	12 (48.0%)	-	13 (52.0%)
Abdominal pain	1 (20%)	3 (60%)	1 (20%)
Menorrhagia	12 (8.5%)	89 (63.1%)	40 (28.4%)
Dysmenorrhea	-	11 (100%)	-
Mass descending pv	-	-	3 (100%)
Amenorrhea	4 (100%)	-	-

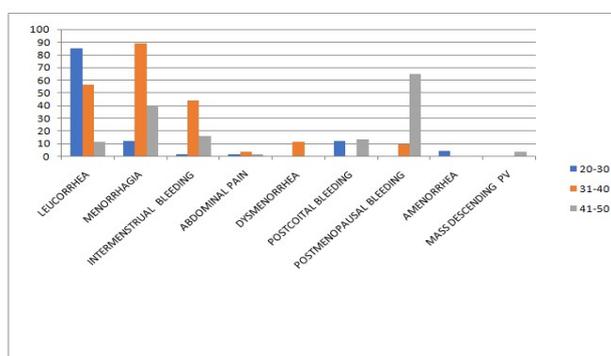


Fig. 1. Clinical presentation

Table 3. Cytology and Clinical presentation

Clinical presentation	Non specific inflammation	Trichomonas vaginalis	ASCUS	Carcinoma	Atrophic smear	Normal smear
Leucorrhoea	118 (33.6%)	2 (33.4%)	-	-	-	32 (34.4)
Intermenstrual bleeding	40 (11.4%)	-	2 (18%)	-	1 (7.14%)	18 (19.3%)
Post coital bleeding	23 (6.55%)	1 (16.6%)	-	-	-	1 (1%)
Abdominal pain	3 (0.9%)	-	-	-	-	2 (2.2%)
Menorrhagia	111 (31.6%)	2 (33.4%)	3 (27%)	-	1 (7.14%)	24 (26%)
Post menopausal bleeding	44 (12.53%)	1 (16.6%)	6 (55%)	1	12 (85.8%)	10 (10.7%)
Amenorrhea	2 (0.56%)	-	-	-	-	2 (2.2%)
Dysmenorrhea	8 (2.3%)	-	-	-	-	3 (3.22%)
Mass descending pv	2 (0.56%)	-	-	-	-	1 (1%)
TOTAL	351	6	11	1	14	93

CYTOLOGY AND CLINICAL PRESENTATION: In inflammation, Leucorrhoea (33.6%) is the most common clinical presentation followed by menorrhagia (31.6%) and Amenorrhea. Mass descending pv (0.56%) being the least. In patients reported with ASCUS, post menopausal bleeding (55%) was the commonest complaint.

Table 4. Cytology and age

Age	Non specific inflammation	Trichomonas vaginalis	Ascus	Carcinoma	Normal smear	Atrophic smear
20-30	88 (25%)	1 (16.6%)	1 (9%)	-	25 (26.8%)	-
31-40	163 (46.4%)	3 (50%)	3 (27.2%)	-	43 (46.2%)	-
41-50	100 (28.5)	2 (33.3%)	7 (63.6%)	1 (100%)	25 (26.8%)	14 (100%)
Total	351	6	11	1	93	14

CYTOLOGY AND AGE: In the present study, high incidence of inflammation was observed in 31-40 years (46.5%) followed by women among 41-50 years (28.5%)

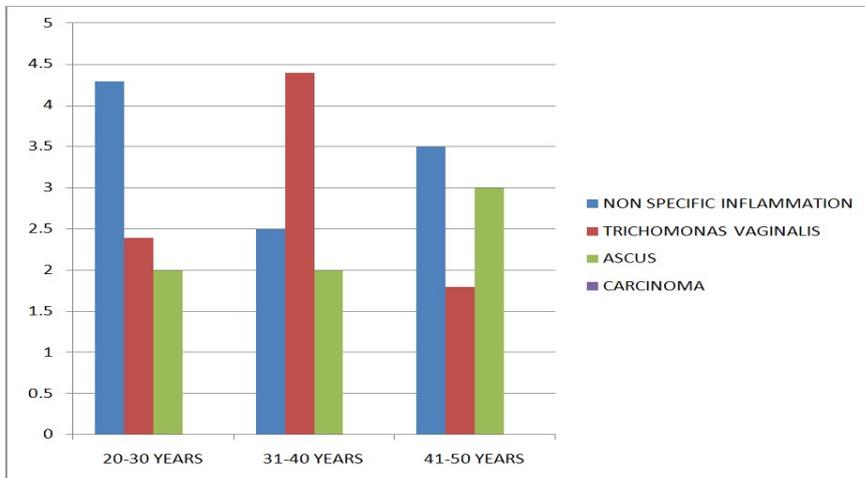


Fig. 2. Cytology and age

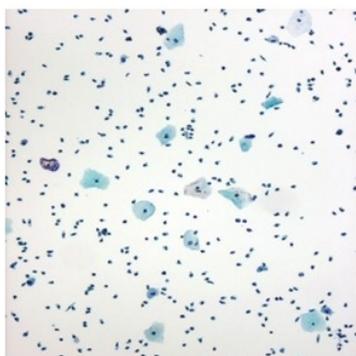


Fig. 3. Inflammatory smear

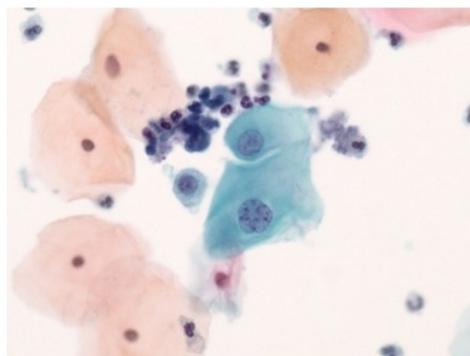


Fig. 4. ASCUS

DISCUSSION

Present study was conducted at Rajah Muthiah Medical college Hospital, Chidambaram catering to the rural and urban population. Cervical smears from 476 female patients of age 20 to 50 years were screened for Inflammatory, Pre cancerous and cancerous lesions and variables such as Age, Clinical presentation and Cytology were compared with other studies.

Age Incidence: In a series done by Dhiraj *et al.*, (2011) and Mandakini *et al.*, (2011) ,High incidence of cases were seen in the 4th decade [Dhiraj *et al.*, (31%)],followed by 5th decade Ombech Elizabeth *et al.*, (2012) (41%). In the present study (2022) ,Maximum cases were observed in 31-40 years (44.5%) similar to Dhiraj *et al.*, and Mandakini *et al.*

Table 5. Comparision of age incidence

Author	20-30 years	31-40 years	41-50 years
Dhirraj <i>et al.</i> , (2011)	31%	36.5%	23%
Ombech Elizabeth <i>et al.</i> , (2012)	17%	34%	41%
Mandaki <i>et al.</i> , (2011)	27.22%	28.19%	7.59%
Present study (2022)	24.2%	44.5%	31.3%

Clinical Presentation: In the series of studies done by Sania Tanveer *et al.*, (2006). Dhiraj *et al.*, (2011) and Ghaith *et al.*, (2012), Leucorrhea is the most common clinical presentation. Sania Tanveer *et al.*, (2006) reported high incidence of leucorrhea (41%) followed by Post coital bleeding (30%) and Abdominal pain (10%) in a study on 300 women. Dhiraj *et al.*, (2011) study on 930 women revealed high incidence of leucorrhea (69.5%) followed by abdominal pain (21.6%) and postcoital bleeding (12.2%). In the Ghaith *et al.*, (2012) study,Maximum number of cases presented with Leucorrhea (29%) followed by abdominal pain (8%) and post coital bleeding (5.25%). In the present study (2022) ,out of 476 cases 152 (31.9%) women presented with Leucorrhea and 141 (29.6%) cases presented with menorrhagia,74 (15.54%) cases with Post menopausal bleeding,61 (12.81%) with intermenstrual bleeding,25 (5.25%) with postcoital bleeding,11 (2.31%) with dysmenorrheal,5 with

abdominal pain ,4 with amenorrhea and 3 with mass descending PV. The incidence of Leucorrhoea in the present study (31.93%), with that of Ghaith *et al.*, study (29%) ,The incidence of abdominal pain in our study (1.05%) is lower when compared with that of study done by Ghaith *et al.*, (8%) while the incidence of Post coital bleeding in our study is (5.25%) is comparable study done by Dhinraj which is (12.2%)

Cytology: In the series of studies done by sania Tanveer *et al.*, (2006), Dhinraj *et al.*, (2011), Maryam *et al.*, (2007), High incidence of inflammation were seen followed by ASCUS and Carcinoma. In a study of 300 women by sania Tanveer *et al.*, (2006) ,32% cases were found to be inflammatory smears,1.9% cases with ASCUS and 0.6% cases with carcinoma on cytology. Maryam *et al.*, (2007) study revealed 51% cases with inflammatory smears, 0.9% cases with ASCUS and 0.2% cases with carcinoma on cytology. A study on 922 women done by Mandakini *et al.*, (2011) revealed 59% cases with inflammatory smears,3.5% cases with ASCUS and 0.4% cases with carcinoma on cytology. Dhinraj *et al.*, (2011) conducted study on 930 women,which revealed inflammatory smears in 91.5%,ASCUS 3.87% and carcinoma 1.6%. In the present study (2022) ,of the 476 women cytologically screened,317 (66.59%) cases showed chronic non-specific inflammation,11 (2.31%) cases ASCUS and 1 (0.21%) case with carcinoma. The incidence of chronic non-specific inflammation (66.59%) is comparable to the study done by Maryam *et al.*, and Mandakini *et al.*The incidence of ASCUS (2.31%) is comparable to study done by Sania Tanveer and mandakini *et al.*, and incidence of carcinoma (0.21%) is comparable to almost all studies. The incidence of Atrophic smear in present study is 2.9% which is comparable with the study done by tag El-sabah *et al.*, which is 7.5% and incidence of normal smear is 19.5% in present study is comparable with 17.5%.

Table 6. Comparison of Inflammation, ASCUS, Carcinoma

Author	Inflammation	ASCUS	Carcinoma
Present study	66.59%	2.31%	0.21%
Maryam et al	51%	0.9%	0.2%
Dhiraj et al	91.5%	3.87%	1.6%
Sania Tanveer	32%	1.9%	0.6

Author	Normal smear	Atrophic smear
Present study	19.5%	2.9%
Tag El-Sabah et al	17.5%	7.5%

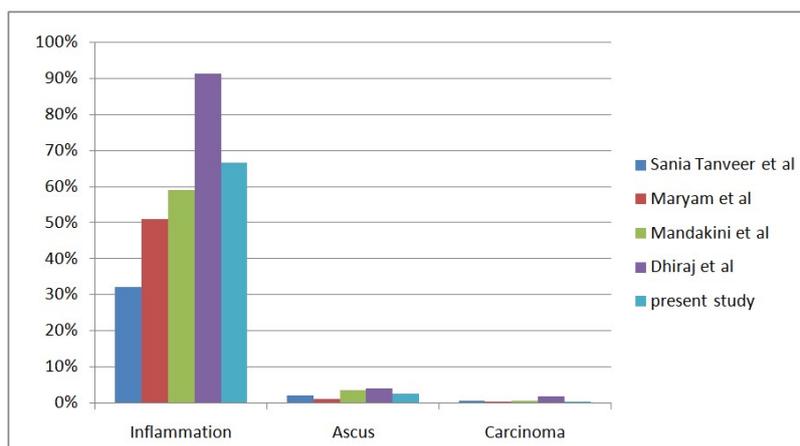


Fig. 5. Comparison of Inflammation, Ascus and Carcinoma

SUMMARY

In the present study 476 women with gynecological symptoms were subjected to screening by PAP smear. Patients of 20 to 50 years were included in this study. The most common presenting complaint was Leucorrhoea 152 cases (32%) followed by intermenstrual bleeding 61 cases (12.8%), menorrhagia in 141 cases (29.6%), abdominal pain in 5 cases (1%), Post coital bleeding in 25 cases 5.3%, Amenorrhoea in 4 cases (0.84%), post menopausal bleeding in 74 cases (15.5%), Dysmenorrhoea in 11 cases (2.3%) ,Mass descending pv in 3 cases (0.63%). of these 476 cases,351 cases (73.72%) were inflammatory smear, Ascus 11 cases (2.3%) ,carcinoma 1 case (0.2%) ,Atrophic smear 14 (2.94%) ,normal smear 93 (19.53%), Trichomonas vaginalis 6 (1.3%). Early diagnosis of pre malignant lesions by Pap smear study result in timely therapeutic intervention leading to decrease in number of cases progressing to frank malignancy. Programme to increase the awareness among the women regarding the benefits of Pap screening will go long way in reducing the cancer burdern in the community.

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