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Trend of abnormal cervical cytology- In Papanicolaou smears in perimenopausal females in tertiary care centre, Madhya Pradesh

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Abstract

Introduction: Cervical Intraepithelial neoplasia, Dysplasia & cervical Cancer remain important health problem. Cervical cytology by Papanicolaou (Pap) smear is an effective means of screening for cervical premalignant & malignant conditions.

Aim: The aim of this study was to assess the trend of cervical dysplasia, cervicitis & cervical cancers in perimenopausal women in tertiary care centre of Madhya Pradesh and to assess the association (if any) of Neoplastic/dysplastic changes & inflammations.

Material & Methods: A total of 3,610 cases were enrolled in 4 year study cervical scrape smears were collected & stained using Rapid-Pap method. The emphasis was on epithelial abnormalities classified in accordance with the Bethesda System. The cases belonged to the perimenopausal age group (41-50 years).

Results: Trend of Acute cervicitis - 75% (2013), 69.9% (2014), 67.8% (2015), 44.3% (2016); Trend of chronic cervicitis - 30.4% (2013), 23.6% (2014), 14.9% (2015), 8.1% (2016); Trend of Bacterial Vaginosis - 71.1% (2013), 68% (2014), 65.49% (2015), 48.6% (2016), Trend of Trichomoniasis - 4.5% (2013), 2.8% (2014), 2.6% (2015), 2.1% (2016); Trend of Candidiasis - 5.3% (2013), 4.5% (2014), 3.5% (2015), 3.1% (2016); Trend of Cervical Dysplasia - 20.5% (2013), 11% (2014), 10.5% (2015), 8% (2016), Trend of SCC 2.5% (2013), 1.8% (2014), 1% (2015), 0.5% (2016).

Conclusion: Study has shown a relatively decreasing trend of epithelial abnormalities, cervicitis & cervical dysplasia in cervical smears which are taken regularly as a part of ongoing family planning programme in our tertiary care set up.

Keywords: Abnormal cervical cytology, Papanicolaou smears, perimenopausal females, tertiary care centre

Introduction

Cervical Intraepithelial neoplasia, Dysplasia & cervical Cancer remain important health problem. Cervical cytology by Papanicolaou (Pap) smear is an effective means of screening for cervical premalignant & malignant conditions.

Carcinoma cervix worldwide accounts for 15% of all cancers diagnosed in women [1]. Cervical cancer is one of the leading cancer in women with the estimated 5.0 lakhs new cases every year of which 80% occur in developing countries [2]. In India, it is estimated that the number of new cases are over 1,40,000 [3]. Cancer cervix occupies the top rank or second among cancers in women in developing countries, where as in the affluent countries cancer cervix does not find a place even in top five leading cancers in women. 70% or more of these cancers are in stage 3 or higher at the time of diagnosis. The role of Papanicolaou (Pap) smear as a cancer screening tool for cervix has been substantiated by several studies in the last 50 years and the methods has resulted in falling incidence and mortality of cervical cancer in developed world. Therefore, the data on the prevalence of cervical epithelial abnormalities in various population in this country is not known. There is an urgent need for initiation of community screening and educational programs for the control and prevention of cervical cancer in India [4].

Therefore, objective of this study was to assess the trend of cervical dysplasia, cervicitis & cervical cancers in perimenopausal women in tertiary care centre of Madhya Pradesh and to assess the association (if any) of Neoplastic/dysplastic changes & inflammations.

Material & Methods

A total of 3,610 cases were enrolled in 4 year study cervical scrape smears were collected & stained using Rapid-Pap method. The emphasis was on epithelial abnormalities classified in accordance with the Bethesda System [5]. The cases belonged to the perimenopausal age group (41-50 years) [6].

It was ensured that no local douche, antiseptic cream and no local internal examination was done on the day of test. The patient was placed in dorsal lithotomy position and a cusco’s bivalve speculum was introduced through vagina and cervix was visualized. The longer projection of the Ayre’s spatula was placed in the cervix near squamo-columnar junction and rotated through 360*. The cellular material thus obtained was quickly, but gently smeared on a clean glass slide. The glass slide was then immediately put into the coplin jar containing 95% ethyl alcohol which acted as a fixative.

The prepared smears were then stained according to Papanicolaou’s technique. The cytological interpretation of the smears was made according to the 2001 Bethesda system.

Results

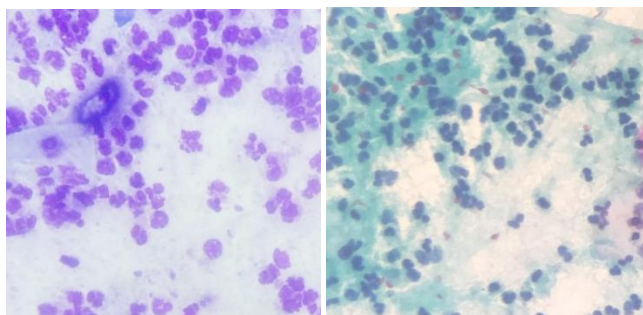
Total no of 3,610 cervical scrape smears taken & examined results are divided in Acute cervicitis; Chronic cervicitis ; Bacterial vaginosis ; Trichomoniasis ; Candidiasis; Cervical dysplasia.

All patients are of perimenopausal age group.

Table: Categorization of Cyodiagnosis

S.NO.	Category	2016	2015	2014	2013
1.	Acute Cervicitis	35.5%	38.2%	40.1%	41.0%
2.	Chronic Cervicitis	9.5%	10.8%	10.9%	11.7%
3.	Bacterial Vaginosis	20.0%	22.0%	23.0%	23.8%
4.	Trichomoniasis	2.1%	4.1%	4.8%	5.1%
5.	Candidiasis	5.0%	6.2%	8.0%	9.0%
6.	Cervical Dysplasia	5.0%	6.0%	8.0%	9.0%
7.	ScC	0.5%	0.8%	1.5%	1.8%
8.	Normal Smears	24.5%	13.0%	6.0%	1.5%

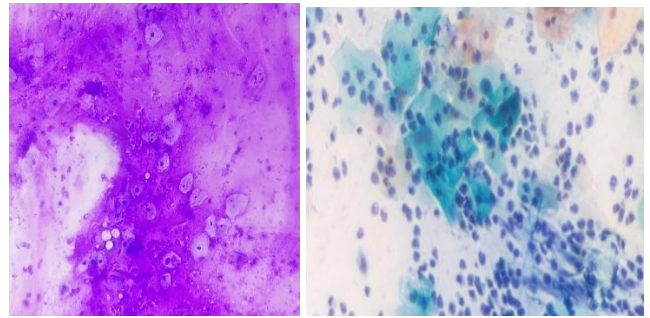
Acute Cervicitis: Inflammatory smear showing numerous polymorphs with dirty background & cytolysis characteristic of acute cervicitis



Giemsa

Paps

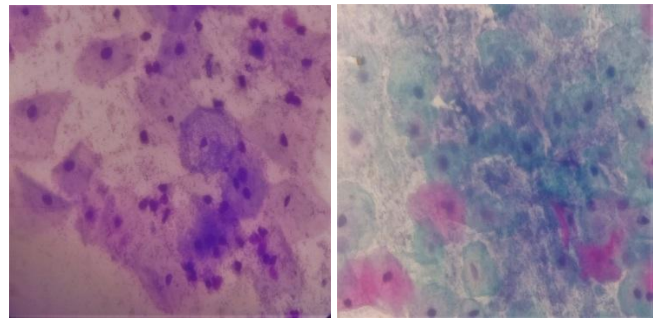
Chronic Cervicitis: Smear showing inflammatory cell and superficial squamous cells with metaplastic changes



Giemsa

Paps

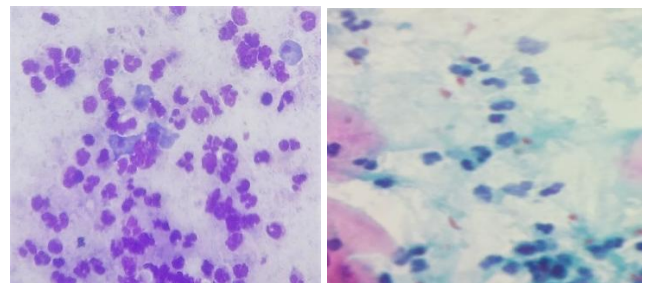
Bacterial Vaginosis: *Gardnerella vaginalis* –small bacterial organisms covering squamous cells (clue cells), specially sticking at borders



Giemsa

Paps

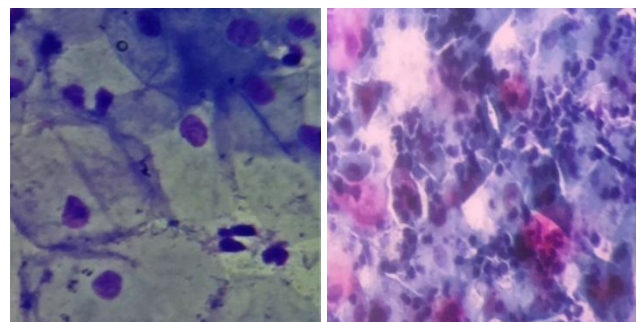
Trichomonas Vaginalis: Smear showing pale trichomonas, a pear shaped protozoan with pale nucleus and faint red granules



Giemsa

Paps

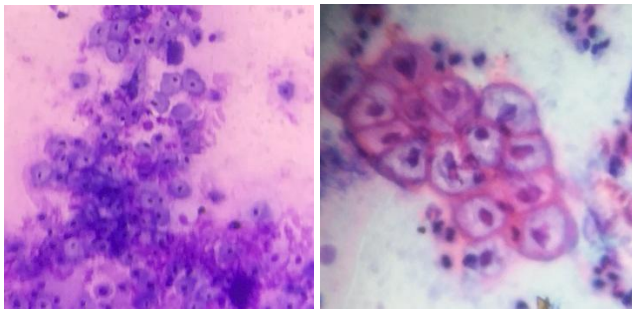
Candida: Smear showing budding spores and hyphae of candidiasis



Giemsa

Paps

LSIL: Smear showing superficial and intermediate cells with koilocytic changes as perinuclear halo indicating HPV infection with mild dysplasia

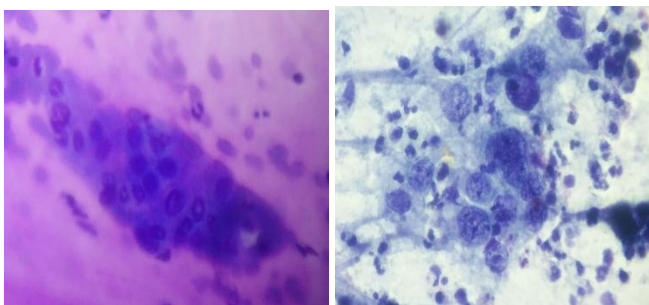


Giemsa

Paps

HSIL

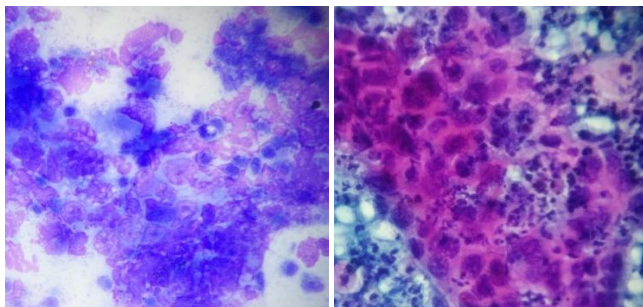
Smear showing cells with scant cytoplasm and marked hyperchromatic nucleus and irregular nuclear contour.



Giemsa

Paps

SCC: Smear showing macro-nucleolus with tumor diathesis Tadpole and fiber cells are present: feature of keratinizing type



Giemsa

Paps

Discussion

Uterine cervix is ideal for screening due to easy accessibility of cervix for inspection, palpation, exfoliative cytology and screening. Cancer cervix is a preventable and curable disease due to effective screening methods available and a long preinvasive phase of the disease and various treatment modalities available. Cervical cancer screening represents one of the great success stories in cancer prevention.

Thus screening of perimenopausal women should be made mandatory as it helps in picking of cases of cervical intraepithelial neoplasia (CIN) which can be treated easily with different treatment modalities and progression of cervical precursors to invasive cancer can be reduced, thus reducing the incidence of cervical cancer cervix.

It has been established that low grade dysplasia is usually asymptomatic. The common complaints in high grade dysplasia are postmenopausal bleeding and inter menstrual and postcoital bleeding per vaginum. [7] In our study also, the most common complaints in cervical dysplasia was postcoital bleeding & postmenopausal bleeding per vaginum and on per speculum examination, most common finding was cervical polyp. In the past also, visual inspection of the cervix had been stressed by Sankarnarayanan *et al.* [8]

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Conclusion

Study has shown a relatively decreasing trend of epithelial abnormalities, cervicitis & cervical dysplasia in cervical smears which are taken regularly as a part of ongoing family planning programme in our tertiary care set up.

Pap smear is good tool to find abnormal cervical cytology- cervical dysplasia, cervicitis & cervical cancers in population. Periodic cytological screening would go a long way in the early detection of various cervical lesions and help in reducing the incidence of cervical cancer.

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