

**Distribution of various Non-neoplastic diseases of the cervix in North west Rajasthan.**

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**Abstract**

**Background:** Diseases of the cervix are common in young sexually active women. Non-neoplastic diseases are predominantly inflammatory and are common .

**Materials and Methods:** Specimen was obtained from patients presenting with history of discharge per vaginum, irregular menstrual cycles, post menopausal bleeding and pain abdomen to the department of Obstetrics and Gynaecology, P.B.M Hospital and attached group of hospitals .Detailed clinical data was obtained and noted on a structured proforma.

**Results:** 221 pap smears which were Negative for intraepithelial lesion (NILM) were studied Among these 177 were non specific inflammatory smears,4 were bacterial vaginosis,3 smears of candidiasis,3 trichomonas Vaginalis, 3 were actinomyces ,1smear showed atrophic changes and 32 were normal smears.

**Conclusion:** Chronic non-specific cervicitis was the most common non-neoplastic cervical lesion and it occurs in all age groups of women studied.

**Keywords:** Non-neoplastic, Cervix, Disease, NILM

**Introduction**

Diseases of the cervix are common in young sexually active women<sup>(1)</sup>.Non-neoplastic diseases of the cervix are predominantly inflammatory in nature.Infections and inflammatory lesions of the cervix are common.Cervical inflammation may be acute, chronic or active (acute-on-chronic). Each of these may be from non-infective and infective causes. Non infective cervicitis is most often chemical in nature. Common causes include irritations secondary to douching or local trauma produced by tampons, pessaries and intrauterine contraceptive devices<sup>(1)</sup>. The aetiology of infective cervicitis consists commonly of sexually-transmitted diseases, Staphylococcus aureus, endogenous vaginal aerobes and anaerobes among others. Although frequently. This is not unconnected to the fact that most of these infections are amenable to antimicrobial agents and do not require cervical surgical biopsy for diagnosis. Chronic Granulomatous inflammation also affects the cervix. Worldwide, the commonest cause is tuberculosis<sup>(2,3)</sup>.Other less frequent causes include schistosomiasis, enterobiasis, actinomycosis, lymphogranuloma venerum (LGV) and

syphilis. Tuberculous cervicitis usually arises secondary to disseminated tuberculosis and usually produces ulcerative lesion and sometimes hypertrophic lesions which may grossly simulate carcinoma of the cervix<sup>(4,5)</sup>. Schistosomiasis is endemic in the tropics. In severe infections, calcified ova of Schistosoma may be seen in the genital tract. Cervical involvement may be present as polypoid or nodular masses<sup>(6)</sup>. Viruses especially Human papilloma virus and Herpes simplex virus commonly infect the cervix and are strongly associated with carcinoma of the cervix<sup>(7,8)</sup>. Other lesions seen in the cervix include tunnel cluster, mesonephric hyperplasia, endometriosis and microglandular endocervical hyperplasia<sup>(9,10)</sup>. These lesions may be misinterpreted as malignant. Familiarity with their histopathological features is essential in their recognition and appropriate management. The aim of this study is to make information available on non-neoplastic diseases of the cervix from our routine cytological practice.

**Methods**

The present study was done on 221 patients presenting with history of discharge per vaginum, irregular menstrual cycles, post menopausal bleeding and pain abdomen and were reported negative for intraepithelial lesions (NILM). The study was conducted in the Department of Pathology, Sardar Patel Medical College, Bikaner. Specimen was obtained from

Detailed clinical data was obtained and noted on a structured proforma.

Cervical smear was taken after obtaining consent of the patient. Cervix of the patient was exposed adequately with a speculum. The squamocolumnar junction was visualized, with the hooked end of

Ayre’s spatula, squamocolumnar junction was scraped gently throughout its circumference and material was transferred to glass slides. Two such smears were fixed with 95% alcohol immediately and stained using Papanicolaou and H&E stain (haematoxylin and eosin).

**Results**

The Negative for Intraepithelial Lesion or Malignancy (NILM) category had the following findings : nonspecific inflammation in 177 cases (80.09%), bacterial vaginosis in 4 cases (2.16%), candidiasis in 3 cases (1.62%), trichomoniasis in 3 cases (1.62%), actinomyces in 1 case (0.54%), atrophic vaginitis in 1 case (0.54%), Normal 32 cases (14.47%), (table 1 & chart 1)

Table 1: Pap smear negative for intraepithelial lesion

Cytological findings	Number of cases	Percentage (%)
Inflammation	177	80.09
Bacterial Vaginosis	4	1.80
Candidiasis	3	1.35
Trichomonas Vaginalis	3	1.35
Actinomyces	1	0.45
Atrophy	1	0.45
Normal	32	14.47

Table 2: Cytological diagnosis of pap smear with their age distribution and percent distribution. Negative for intraepithelial lesion

Age group	Trichomonas vaginalis		candidiasis		Bacterial Vaginosis		Non-specific Inflammation		Actino-myces		Atrophy		Normal	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
11-20	0	0	0	0	0	0	1	0.4	0	0	0	0	3	1.2
21-30	1	0.4	1	0.4	1	0.4	72	28.8	0	0	0	0	8	3.2
31-40	2	0.8	2	0.8	1	0.4	52	20.8	1	0.4	0	0	10	4
41-50	0	0	0	0	2	0.8	35	14	0	0	0	0	9	3.6
51-60	0	0	0	0	0	0	11	4.4	0	0	1	0.4	0	0
61-70	0	0	0	0	0	0	4	1.6	0	0	0	0	2	0.8
71-80	0	0	0	0	0	0	2	0.8	0	0	0	0	0	0
Total	3	1.2	3	1.2	4	1.6	177	80.0	1	0.4	1	0.4	32	12.8

Cytological diagnosis of pap smear with their age distribution Negative for intraepithelial lesion

Graph-1

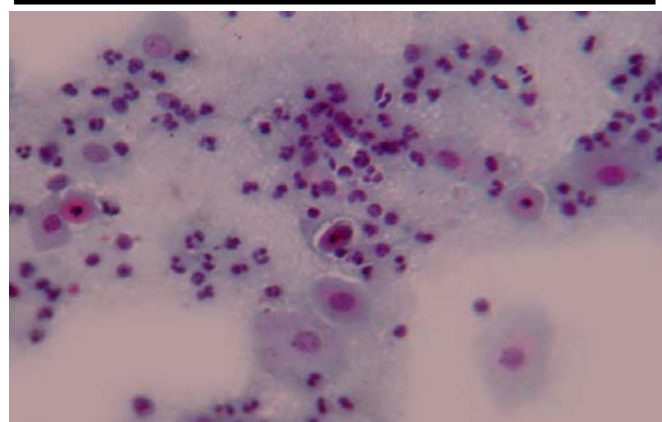
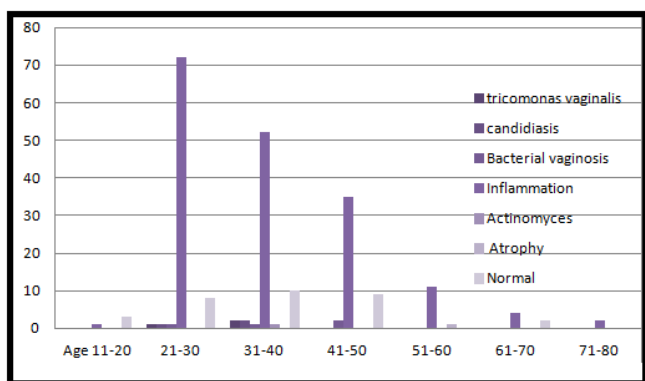


Fig.1: Inflammatory smear : Showing intermediate

squamous cells and plenty of neutrophils (Pap, 40X)

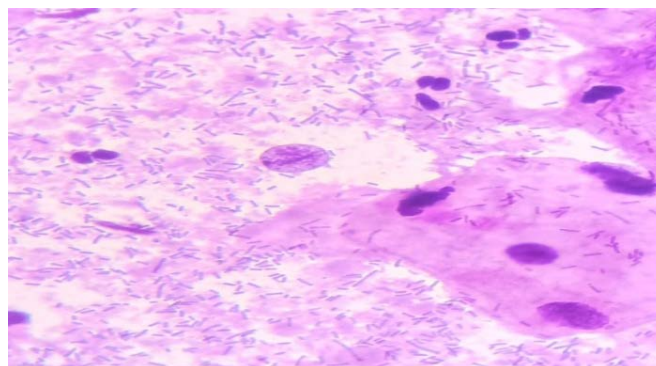


Fig. 2: Trichomonas vaginalis : Showing pear shaped Trichomonas vaginalis in an inflammatory background (H&E, 100X)

In the present study maximum smears were non specific inflammatory i.e 177 cases(80.09%) out of which maximum 72(28.8%) were in 21-30 years of age, only 1 (0.4%) was below 20 years. 4 cases were reported as shift in flora suggestive bacterial vaginosis, out of which maximum 2(0.8%) cases were in 41-50 year age group. 3(1.2%) cases of candidiasis were reported, out of which maximum 2(0.8%) cases were in 31-40 year age group. 3(1.2%) cases of trichomoniasis were reported, out of which maximum

2(0.8%) cases were in 31-40 year age group. 1(0.4%) case of actinomyces was reported in 31-40 year age group. 1(0.4%) case of atrophic vaginitis was reported in 51-60 year age group. 32(12.8%) cases of normal finding, out of which maximum 10 (4%) cases were reported in 31-40 year age group.

### Discussion

Chronic non-specific cervicitis constituted 80.09% of all non-neoplastic lesions. This is not surprising because it is a frequently encountered condition<sup>(2)</sup>. True cervicitis is diagnosed by the presence of a heavy mixed chronic inflammatory cell infiltrates. This study showed that chronic non-specific cervicitis occurs in all age groups in our women between 11-80 years. Though, it is said to be rare before menarche or after menopause<sup>(2)</sup>. In this study it is the main non-neoplastic lesion seen in the women of reproductive age group. This may be due to the fact these women are sexually active. Infection of the female genital tract of which the cervix is the “gateway” not only predisposes women to tubal infertility but also to the risk of ectopic pregnancy<sup>(11,12)</sup>. Chlamydia trachomatis infection is the most prevalent sexually transmitted disease in developed countries and appears to be equally prevalent in developing countries. Trichomonas vaginalis infection of the cervix produces acute cervicitis. Cytologically Trichomonas vaginalis infection can easily be recognized by the presence of ovoid trichomonal organism and/or prominent perinuclear halo<sup>(13)</sup>. In severe infection there may be involvement of the cervix. Schistosomiasis and tuberculosis are frequently encountered. Genital tract tuberculosis in order of frequency affects more commonly the fallopian tubes, the corpus, ovary and occasionally the cervix. The incidence of cervical tuberculosis in the

general population is 2-6%<sup>(5)</sup>. Cervicitis may follow trauma due to parturition or abortion, inappropriate use of tampons or infection by pathogenic agents<sup>(2)</sup>. Viral cervicitis is very important clinically. Over the years there has been increasing detection of subclinical HPV infection cytologically and histologically. The hallmark of infection with HPV is koilocytic change in the epithelial cells, which correlates well with HPV nucleic acid by in-situ hybridization<sup>(7)</sup>. Though in this study none of the chronic cervicitis showed koilocytic atypia (subclinical HPV infection). Infection with HPV is thought to be the initiating event; other factors like co-existing microbial infection and cigarette smoking also contribute to cervical carcinogenesis. The regular screening of population by Pap smear is a cost effective method for detection of cervical lesions. The procedure is simple, inexpensive and can be performed in the outpatient department. Hence, it should be recommended routinely as a method of improving reproductive health. Considering the high rate of cervical neoplasia in developing countries, there is a great need for an organized, well-targeted screening program. It should include periodic gynaecological examinations along with education of women about danger signals. It will certainly bring down the high mortality due to carcinoma cervix and above all will alleviate the suffering caused by this disease.

**Conclusion:** Chronic non-specific cervicitis was the most common non-neoplastic cervical lesion and it occurs in all age groups of women studied.

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