



## A STUDY OF PELVIC INFLAMMATORY DISEASES IN ALIGARH

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**ABSTRACT**

Pelvic Inflammatory disease (PID) is a serious syndrome of female reproductive system which results from the spread of infections from the vagina and endocervix to the uterus, fallopian tubes and ovaries. It is more common in developing countries because of unhygienic conditions. Infections of the lower reproductive tract are common in Indian women. Post abortion and puerperal sepsis are common occurrences. The following study was undertaken with the following aims and objectives to study the etiological agent of PID by cervical smear cytology in study population. The present cross-sectional study was conducted in Gynaecological OPDs of the Department of Obstetrics and Gynaecology, Rural and Urban Health Training Centres (R.H.T.C & U.H.T.C) of the Department of Community Medicine in JN Medical College, AMU, Aligarh. The study was carried out for a period of one year, from 1st August 2001 to 31st July 2002. A total of 350 ever married females were selected on the basis of history of PID elicited. The PAP smear slide was sent to the Department of Pathology after each OPD sessions. In the present study, Trichomonas vaginalis was the most common infection. The association of dysplasia, was more in low socio-economic classes (III-V) in comparison to upper socio-economic classes (I-II). Timely and effective care reduces the prevalence and sequelae of PID. Providing adolescent sex and health education among girls is very important.

**KEYWORDS :** Pelvic Inflammatory disease, dysplasia, specific infections**INTRODUCTION:**

Pelvic Inflammatory disease (PID) is a serious syndrome of female reproductive system which results from the spread of infections from the vagina and endocervix to the uterus, fallopian tubes and ovaries (1). It is more common in developing countries because of unhygienic conditions. Infections of the lower reproductive tract are common in Indian women (1). Post abortion and puerperal sepsis are common occurrences. Minor operative procedures like dilatation and curettage and hysterosalpingogram can cause ascending infection (2). A large number of microorganisms which have been isolated from the uterus and tubes in cases of salpingitis are sexually transmitted (3). Distribution of micro-organism in cases of salpingitis is as follows (4) Chlamydia trachomatis, Neisseria gonorrhoeae, Neisseria gonorrhoeae plus other Micro-Organisms, Aerobic bacteria only (not gonococcus), Anaerobic bacteria only, Mixed aerobic and anaerobic bacteria (not gonococcus), Mycoplasma species only, Mycoplasma species plus other micro-organisms, Mycoplasma tuberculosis. The risk factors of PID (5) adolescence, multiple sex partners, intrauterine devices, history of lower genital tract infections with gonorrhoeae or Ch. trachomatis, history of previous gonococcal PID. Recurrent episodes of PID can increase chances of infertility.

The following study was undertaken with the following aims and objectives to study the etiological agent of PID by cervical smear cytology in study population.

**MATERIAL AND METHODS:**

The present cross-sectional study was conducted in J.N. Medical College and Hospital (J.N.M.C.H.), Aligarh Muslim University, Aligarh. The patients were selected from the Gynaecological OPDs of the Department of Obstetrics and Gynaecology, Rural and Urban Health Training Centres (R.H.T.C & U.H.T.C) of the Department of Community Medicine. The females selected for the study from the Gynaecology OPD of JNMCH were labelled as group I while those selected from UHTC and RHTC were labelled as group II and group III respectively. Permission for doing the study was

taken by the Board of Studies in the Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh. The study was carried out for a period of one year, from 1st August 2001 to 31st July 2002. The present study was carried out among evermarried females in the reproductive age group of 15 to 49 years.

Women who gave positive history of PID, were asked to give their consent for the study. Their refusal, was taken as exclusion criteria. Females with PID who were menstruating or who had taken antibiotic within the previous month were also excluded from the study.

A total of 350 ever married females were selected from the Gynaecology OPD of J.N. Medical College Hospital (n=170), Urban Health Training Centre (n=100) and Rural Health Training Centre (n=80). Cervical discharge was collected by using an Ayres spatula and a PAP smear slide was made. The PAP smear slide was sent to the Department of Pathology after each OPD sessions.

**RESULTS****Table 1: Distribution of the study population according to PAP smear results (n = 350)**

Gyne- cology OPDS	Non- Sp Infec- tions	T.V. Cas es	G.V. Cas es	Chla mydi al Ca ses	Fung al Case s	Norm al Smea r	Mild to Mod erate Dysp lasia	Sev ere Dys plas ia	Total
I	119 (70.0)	7 (4.1)	4 (2.4)	1 (0.6)	2 (1.2)	29 (17.0)	8 (4.7)	0 (0.0)	170 (48.6)
II	49 (49.0)	7 (7.0)	4 (4.0)	0 (0.0)	3 (3.0)	31 (31.0)	6 (6.0)	0 (0.0)	100 (28.6)
III	42 (52.5)	7 (8.7)	2 (2.5)	0 (0.0)	1 (1.2)	22 (27.5)	5 (6.3)	1 (1.2)	80 (22.8)
Total	210 (60.0)	21 (6.0)	10 (2.9)	1 (0.3)	6 (1.7)	82 (23.4)	19 (5.4)	1 (0.3)	350 (100.0)

T.V. = *Trichomonas vaginalis* G.V. = *Gardenella vaginalis*  
(The figures in parenthesis show percentage)

**Table 2: Distribution Of The Study Population According To Social Class(n=350)**

Social class	No	%
I	45	12.9
II	82	23.4
III	151	43.1
IV	65	18.6
V	7	2.0
Total	350	100.0

**Table 3 Distribution of *Trichomonas vaginalis* cases with parity**

Parity	Trichomonas Vaginalis Infection		Total
	Present	Absent	
<3	3 (2.5)	119 (97.5)	122 (34.9)
≥3	18 (7.9)	210 (92.1)	228 (65.1)
Total	21 (6.0)	329 (94.0)	350 (100.0)

The figures in parenthesis show percentage  
 $Z=2.5, p<0.05$  significant

**Table 4 Distribution of the specific organisms with age group**

Age Group (Years)	Specific Organisms		Total
	Present	Absent	
15-24	6 (6.4)	88 (93.6)	94 (26.9)
25-34	19 (12.3)	136 (87.7)	155 (44.2)
35-44	10 (12.7)	69 (87.3)	79 (22.6)
45+	3 (13.6)	19 (86.4)	22 (6.3)
Total	38 (10.9)	312 (89.1)	350 (100.0)

The figures in parenthesis show percentage

## DISCUSSION

As shown in table 1, out of 350 married females, who were investigated by PAP smear, the overall percentage of females with specific and non specific infection was 70.9%. Among them, 210 (60.0%) females were found to have non-specific infection, 21 (6.0%) females suffered from *Trichomonas vaginalis* (T.V) infection, 10 (2.9%) females from *Gardenella vaginalis* (G.V) infection, 1 female had (0.35%) Chlamydial infection and 6 females (1.7%) Fungal infection. In the present study, *Trichomonas vaginalis* was the most common infection. Other study also reported Trichomoniasis to be the commonest infection followed by vaginal candidiasis, genital herpes, and chlamydiasis in both urban and rural women(6). In another study it was reported that *Trichomonas vaginalis* was more in urban women compared to rural(7). Another study(12) reported prevalence of trichomoniasis in 12.02% of females, fungal infection in 3.49% and non specific infection in 13.56% of the females using cervico vaginal cytology. Another study(13) reported prevalence of Chlamydia in 35% of females. Another study (14) reported T.V in 11.9% and Candida infection in 8.8% of females.

As shown in table 2, Out of 20 cases of dysplasia, 5 cases were found in social class I and II as compared to 15 cases, which were from social class III-V. The association of dysplasia was more in low socio-economic classes (III-V) in comparison to upper socio-economic classes (I-II). It was found to be statistically significant ( $Z=3.75, p<0.001$ ). In a study in Kerala, India, it was found that increasing age, increasing parity, illiteracy and poor sexual hygiene were risk factors for cervical dysplasia(8). Low socioeconomic status was also a risk factor for cervical dysplasia as observed in the present study. Gupta et al, in their study on cervical dysplasia in western Uttar Pradesh has shown that a relatively high prevalence of epithelial abnormalities in cervical smears with increasing age, parity, early age at first coitus (<20 year), and

lower socioeconomic status(9). In a study on association of some risk factors & cervical Dysplasia/Cancer among rural women, it was observed that cases of dysplasia were more among women with high parity and low socio economic group(10).

The Z test for proportion was applied for testing the significance of TV infection with more parity (more than or equal to 3) and was found to be significant ( $Z=2.5, p<0.05$ ). (as in table 3) Out of 38 cases of specific organisms (*Trichomonas vaginalis*, *Gardenella vaginalis*, Chlamydia, Fungal) found on PAP smear, maximum of 19 cases were found in the age group 25-34 years as shown in table 4. But there was no statistical association between the presence of specific organisms more in 15-34 years age group (active sexual life) compared to 35-49 years age group. A Study reported (7) that T.V. and candida were commonly seen in younger age of 21 to 30 years in urban and rural women of Lucknow. This may be related to active sexual life.

## CONCLUSION:

PID is both a medical and social problem. There is a large proportion of females who are suffering from PID. Timely and effective care reduces the prevalence and sequelae of PID. Providing adolescent sex and health education among girls is very important. Institutional deliveries should be conducted. Awareness regarding occurrence of cervical cancer is very essential so that large no. of women from High Risk group may visit the health centre for PAP smear check up. There should be a quick, simple and effective way to diagnose and treat PID. The syndromic approach to case management is now being promoted by the World Health Organization (WHO). Always use condoms and keep safe by staying with one sexual partner.

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