Journal of Research in Medical and Dental Science
2022, Volume 10, Issue 9, Page No: 209-212

Available Online at: www.jrmds.in
eISSN No. 2347-2367: pISSN No. 2347-2545

Findings in Patients of Pelvic Inflammatory Diseases According to WET Mount Smear and 10% KOH Application

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ABSTRACT

Bacterial vaginosis, candidiasis and trichomoniasis are responsible for about 90% of the cases of infectious origin and have been linked to premature labour, preterm delivery, low birth weight, increase prenatal mortality as well as predisposing them to HIV/AIDs and cervical cancer. Gardenella vaginalis usually presents with no symptoms but could be accompanied by vaginal irritation, vaginal discharges and fish-like odour. Candida albicans is the most commonly implicated fungi infection of the vagina and vulva characterized by severe itching, burning sensation, soreness, irritation and whitish grey cottage cheese-like discharge often with a curd-like appearance. Keeping in view the above fact and remembering that pelvic inflammatory disease is one that is wholly preventable, the following study was undertaken with the following aim and objective to determine the causative organism of PID in study population. 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. 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 ever married females in the reproductive age group of 15 to 49 years. 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).A detailed clinical history and clinical examination were recorded on a pre-formed and pre tested proforma .All the females under study were subjected to per vaginal examination.The cervical discharge was collected by cotton swab microbiological investigations. Cotton swab was introduced for collection of discharge on two slides for wet mount smear method (for isolation of protozoa) and 10% KOH application test (for isolation of Candida albicans) with the help of microscope. Microscopy indicated yeast like forms after staining of exudates with 10% KOH. These were done in the respective labs of gyn. OPDs. Wet Mount Smear was prepared by staining the smear on the slide by normal saline and putting a coverslip on it. Motile organisms were seen in wet mount. It was done for Trichomonas vaginalis and Gardenella vaginalis. The wet mount positivity for Trichomonas vaginalis comes out to be 7.4%. The positivity for fungal infection on 10%KOH application was found to be in 12.6% cases.

Key words: PID, Gardenella vaginalis, Trichomonas vaginalis, Fungal infection

HOW TO CITE THIS ARTICLE: Uzma Eram, Najam Khalique, Findings in Patients of Pelvic Inflammatory Diseases According to WET Mount Smear and 10% KOH Application, J Res Med Dent Sci, 2022, 10 (9):209-212.

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Received: 01-Sep-2022, Manuscript No. JRMDS-22-74131;

Editor assigned: 03-Sep-2022, PreQC No. JRMDS-22-74131(PQ);

Reviewed: 19-Sep-2022, QC No. JRMDS-22-74131(Q);

Revised: 23-Sep-2022, Manuscript No. JRMDS-22-74131(R);

Published: 30-Sep-2022

INTRODUCTION

Pelvic Inflammatory disease (PID) is a serious syndrome of female reproductive system which results from the spread of infections (most often sexually transmitted infections) from the vagina and endocervix to the uterus, fallopian tubes and ovaries. PID is caused most commonly by Chlamydia trachomatis, Neisseria gonorrhea, Neisseria gonorrhea plus other Micro-Organisms, aerobic bacteria only (not gonococcus), anaerobic bacteria only, Mycoplasma species plus other micro-organisms and Mycoplasma tuberculosis [1,2]. Bacterial vaginosis, candidiasis and trichomoniasis are responsible for about 90% of the cases of infectious origin [3] and have been linked to premature labour, preterm delivery, low birth weight, increase prenatal mortality as well as predisposing them to HIV/AIDs and cervical cancer [4,5]. Gardenella vaginalis usually presents with no symptoms but could be accompanied by vaginal irritation, vaginal discharges and fish-like odour [6,7]. Candida albicans is the most commonly implicated fungi infection of the vagina and vulva characterized by severe itching, burning sensation, soreness, irritation and whitish grey cottage cheese-like discharge often with a curd-like appearance [8]. The protozoa Trichomonas

vaginalisis (TV)a sexually transmitted parasite causing vulvovaginitis characterized by intense frothy yellow-greenish vaginal discharges, irritation and pain in the vulva, perineum and thighs, and dyspareunia and dysuria [9]. The prevalence of trichomoniasis has been reported to be 17.6% - 20% [10,11]. Gardnerella vaginalis (GV)has presented prevalence between 15.2% and 17.6% [12,13]. TV is a flagellate protozoan that affect lower female genital tract, with a prevalence of 2.1 % in reproductive age-women. TV infection might determine an increased risk of HPV persistence and then cervical cancer. *T. vaginalis* infection has been associated with reproductive tract sequelae, including pelvic inflammatory disease and adverse outcomes of pregnancy [14– 16]. TV may lead to premature rupture of membranes, premature labour and low birth weight which makes the infection a serious health concern among pregnant women. Yeast infections are a common type of vaginal infections and they are especially common in pregnant women as they become immunocompromised during that period.

Keeping in view the above fact and remembering that pelvic inflammatory disease is one that is wholly preventable, the following study was undertaken with the following aim and objective to determine the causative organism of PID 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 labeled as group I while those selected from UHTC and RHTC were labeled 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 ever married 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).

A detailed clinical history and clinical examination were recorded on a pre-formed and pre tested proforma .All the females under study were subjected to per vaginal examination.

The cervical discharge was collected by cotton swab microbiological investigations. Cotton swab was introduced for collection of discharge on two slides for wet mount smear method (for isolation of protozoa) and 10% KOH application test (for isolation of Candida albicans) with the help of microscope. Microscopy indicated yeast like forms after staining of exudates with 10% KOH. These were done in the respective labs of gyn. OPDs.

Wet Mount Smear was prepared by staining the smear on the slide by normal saline and putting a coverslip on it. Motile organisms were seen in wet mount. It was done for Trichomonas vaginalis and Gardenella vaginalis.

RESULTS

Results are explained in Tables (Tables 1 to Table 3).

DISCUSSION

As shown in Table 1, the wet mount positivity for Trichomonas vaginalis comes out to be 7.4% .The results are in conformity with the studies of Bhatia, et al. [17], who found in rural Karnataka that the prevalence of trichomonal infection was 7.0%. Gupta, et al. [18], found trichomonal infection in 7.9% cases of reproductive tract infection in women in Hills of North India. However, Rasheed, et al. [19], reported trichomonal infection

Table 1: Distribution of the study population according to wet mount smear positivity for Trichomonas vaginalis (n=350).

Gynae OPDs	No. of suspected cases positive	No. of suspected cases negative	Total
I	12(7.0)	158(93.0)	170(48.6)
II	8(8.0)	92(92.0)	100(28.6)
III	6(7.5)	74(92.5)	80(22.8)
Total	26(7.4)	324(92.6)	350(100.0)

The figures in parenthesis show percentage

Table 2: Distribution of the study population according to wet mount smear positivity for Gardenella vaginalis (n=350).

Gynae OPDs	No. of suspected cases positive	No. of suspected cases negative	Total
I	3(1.8)	167(98.2)	170(48.6)
II	2(2.0)	98(98.0)	100(28.6)
III	2(2.5)	78(97.5)	80(22.8)
Total	7(2.0)	343(98.0)	350(100.0)

The figures in parenthesis show percentage

Table 3: Distribution of the study population according to 10% KOH application positivity (for spores/hyphae) (n=350).

Gynae OPDs	No. of suspected cases positive	No. of suspected cases negative	Total
I	20(11.8)	150(88.2)	170(48.6)
II	15(15.0)	85(85.0)	100(28.6)
III	9(11.3)	71(88.7)	80(22.8)
Total	44(12.6)	306(87.4)	350(100.0)

The figures in parenthesis show percentage

in 5.4% of cases. Parikh, et al. [20] in Mumbai found prevalence of trichomonal infection to be 10.0%. Sahoo, et al. [21], found TV in very less percent of patients (1.0%).It also reported prevalence of G.V. to be 2.1% which is more or less similar to the finding of present study (Table 2).

Garg, et al. [22] found in his study of reproductive morbidity in an urban slum area of Delhi that out of 332 married females of reproductive age group, T.V. was found in 4.0% cases. There was statistically no significant difference between the prevalence rates of protozoa (T.V and G.V.) between the group I and group III; and between the group II and III (by applying Z test).

The positivity for fungal infection on 10%KOH application was found to be in 12.6% cases as shown in table 3.This is more or less similar to the result of Sahoo, et al. [21], who found candidiasis in 11.0% cases. Rasheed, et al. [19] reported candida infection in 19.5% cases. Nandan, et al. [23], in rural Maharashtra reported a higher prevalence of candidiasis in 34.0% cases. Bang, et al. [24] found candidiasis in 8.8% cases. Garg, et al. [22] found candidiasis in 19.0%cases. Gupta, et al. [18], found vaginal candidiasis in 9.3% cases. There was statistically no significant difference in the prevalence rates of fungal infection between the groups I and III and group II and III. Candida albicans is estimated to affect all adult women at least once in their lifetime [25] or during their childbearing period [26,27]. Pregnancy has been exclusively regarded as one of the factors that predispose in vulvovaginal candidiasis [28,29] the predominant symptom of vaginal candidiasis is itching, vaginal discharge may be profuse or minimal although the mucosa is usually inflamed with extreme soreness [30-34]. The isolation of C. albicans from the female lower genital tract should always be regarded as significant. Very few control measures are available.

CONCLUSION

The major focus should be on patient education and preventing PID and sexually transmitted infections .Nurses, doctors and health care workers should educate the patients about safe sex. Teenagers and adolescents should be asked to delay sexual activity until 16 or older. Damage to the female reproductive tract from PID is usually irreversible. Parenteral and oral antibiotic regimens have been found to have similar efficacy in women with mild to moderately severe PID. As soon as PID is diagnosed it should be treated promptly after proper checkup and investigations. The patients should also be referred to STI Clinic for proper counseling. Early diagnosis and treatment of PID will lead to decrease in morbidity in females which hampers their day-to-day activities.

ETHICAL CLEARANCE

Taken from the Board of Studies committee in the Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh

CONFLICT OF INTEREST

Nil.

SOURCE OF FUNDING

Self.

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