ISOLATION OF GARDNERELLA VAGINALIS IN CASES ATTENDING THE GYNAECOLOGICAL OPD AND FAMILY PLANNING CLINIC OF PGIMER, CHANDIGARH.

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SUMMARY

Of 320 randomly selected subjects attending the gynaecologic OPD and family planning clinic of Nehru Hospital, PGIMER, Chandigarh, Gardnerella Vaginalis was isolated in 41 cases i.e. 12.8%. Majority (75.6%) of the subjects were of age group 21-30 years. Eight of 41 patients with positive culture for Gardnerella were asymptomatic (19.5%), 19/41 (46.34%) had foul smelling vaginal discharge and 9/41 had primary infertility. Gardnerella vaginalis was the sole organism isolated in 41.4% (17/41) cases while in the rest it was associated with other organisms, of which Mycoplasma hominis and Trichomona vaginalis were isolated in almost equal frequency (11/41 and 10/41 respectively).

Introduction

After being discovered by Gardner and Duke in1955, Gardnerella vaginalis is increasingly gaining importance, especially for its presence in the syndrome of so called non-specific vaginitis (NSV) or bacterial vaginosis [Gardner et al (1955), McCormack et al (1977), Gardner (1980)]. Diagnostic criteria depend on vaginal pH, presence of clue cells on microscopical examination of vaginal smear, and demonstration of the organism in the culture of vaginal smear. Due to conflicting data available on the subject and its implication in the health of a woman, the present study was carried to find out the incidence of Gardnerella vaginalis infection in gynaecologic population.

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Materials and Methods

Three hundred and twenty women in the age group 17-35 years and coming from the defined catchment area of Chandigarh were selected by taking very fifth patient attending the gynaecological and Family Planning Clinics of PGIMER, Chandigarh between October 1986 to September, 1987.

A detailed history with special reference to dysuria, vaginal discharge, pelvic pain and menstrual irregularities were noted. General physical and local examination of the genitalia (without the use of

any antiseptic lubricant) were carried out. The patients who gave any history of antimicrobial drug intake within two weeks or were found to have genital prolapse, malignancy of the genital tract or fibroid uterus were excluded from the study.

Following examination, vaginal pH was determined using pH paper within a narrow range of 4-6. Wet mount preparation of vaginal discharge was examined under 40 X objective for clue cells. Vaginal swabs collected in sterile test tubes were transported to the laboratory in an ice box within one hour of collection. The same were inoculated on Columbia agar (hi media) supplemented with 1% protease peptone and 5% (Vol./Vol.) human blood. The plates are incubated at 37°C in 5% CO for 48 hours. The positive smears showed the growth of rounded tiny transparent regular colonies of 0.5 cm diameter with diffuse B haemolysis on human blood agar.On gram staining, the slides showed variable pleomorphic forms of colonies. Pure cultures were confirmed by negative catalase, fermentation of glucose, maltose and starch, negative fermentation of raffinose, hydrolysis of hippurate and sensitivity of metronidazole. Patients with cultures were treated with Metronidazole 500 mg BD for 7 days and the culture were repeated 3 weeks after the completion of treatment.

Results

Of the 320 cases, 75.6% belonged to age group 21-30 years, which is also the most sexually active age group in our country (Table I). Forty one subjects (12.8%) showed positive cultures for Gardnerella vaginalis of which 8 were asymptomatic (Table II). The asymptomatic women attended the family planning clinic for routine check up after using Cu T for a variable period of 1 to 3 years. Nineteen of

TABLE - I
DISTRIBUTION OF CASES ACCORDING TO THE AGE GROUP.

Age in Years	No. of Gardnerella Positive cases	Percentage
17-20	20	2.4
21-25	11	31.7
26-30	119	43.9
31-35	70	9.7

TABLE - II
DISTRIBUTION OF POSITIVE CASES ACCORDING TO THEIR PRESENTING SYMPTOMS.

Presenting Symptoms	No. of Cases	Percentage
Primary infertility	9	21.9
Asymptomatic (attending F.P. Clinic for routine check up after insection of Cu T 1-3 years)	8	19.5
Leukorrhoea	19	46.4
Low backache	3	7.3
Dysuria	2	4.9

41 subjects (46.3%) had foul smelling discharge per vaginum, 3/41 complained for low backache and 2/41 patients complained of dysuria (urine being sterile) (Table III).

TABLE - III
SHOWING ISOLATION OF GARDNERELLA VAGINALIS ASSOCIATED WITH OTHER ORGANISMS

Organisms isolated	No. of cases	Percentage
Gardnerella vaginalis	17	41.5
Gardnerella vaginalis + Mycoplasma	9	2.19
Gardnerella vaginalis Trichomona	8	19.6
Gardnerella vaginalis Candida	3	7.3
Gardnerella vaginalis Mycoplasma + Trichomona	2	4.9
Gardnerella vaginalis Candida + Mycoplasma	1	2.4
Gardnerella vaginalis Staphylococcus	1	2.4

The vaginal pH determined for all the patients was between 5 and 6. Clue cell was positive in 21 cases (51.22%). Of the 41 culture positive cases, Gardnerella vaginalis was the sole organism isolated in 17 (41.4%). In 9 subjects the infection was associated with Mycoplasma hominis and in 8 (19.5%) it was associated with Trichomona vaginalis. In 2 cases both Mycoplasma hominis and Trichomona vaginalis were present alongwith Gardnerella vaginalis. In 3 subjects Candida albicans was the associated organism and in one, both Candida albicans and Mycoplasma hominis were present. Trichomona vaginalis was associated with Gardnerella vaginalis in 10 cases.

Discussion

During the sexually active phase of a woman's life a number of vaginal organisms can be encountered. Edward et al (1985) reported that vaginitis was the most common cause of physician consultation in USA and about 90% of females suffered from vaginitis. Mirza et al (1983) observed that the organisms causing vaginitis were Gardnerella vaginalis (75%); Mycoplasma hominis (41%), Trichomona vaginalis (34%) and Candida albicans (24%) in descending order. Isolation of Gardnerella in cases of vaginitis varied from 33% to 92% [Gardner et al (1955), Thakur et al (1986), Harish Babu et al (1987)]. However, the incidence of isolation in cases of general gynaecologic population with or without vaginitis was found to be 13.2% by Chowdhury et al (1985). In the present study 12.8% of the general gynaecologic population (patient attending gynaecologic OPD with various symptoms as vaginal discharge, infertility or for follow up after introduction of an IUCD) showed presence of Gardnerella vaginalis.

Gardnerella vaginalis has been isolated from asymptomatic patients as well

as from patients with vaginitis (McCormack et al, 1977). In the present study, of all the cases showing Gardnerella vaginalis, 43.9% had complaint of vaginal discharge, 21.5% suffered from infertility and 19.5% were asymptomatic.

So far there has been no definite study associating Gardnerella vaginalis with infertility. In our study, of the 8 Gardnerella vaginalis positive infertile patients, 2 were associated with Mycoplasma hominis. In all the 8 patients, husband's semen was found to be normal. HSG was done in 4 cases which showed normal findings. Endometrial biopsy for acid fast bacilli showed negative results and histopathological examinations of endometrium revealed normal secretory pattern. In others the investigations are not yet completed. No conclusion can be drawn due to the paucity of data on this aspect, but the incidence of 21.5% is pretty high to be called just a chance finding.

Concomitant presence of other organisms with Gardnerella Vaginalis has been variously reported (Mirza et al 1983). In the present study Gardnerella vaginalis was the sole organism isolated in 17 cases (41.4%). In the remaining 23 patients it was associated with Mycoplasma hominis (11/23). Trichomona vaginalis (10/23) and Candida albicans (4/23).

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