

# Incidence of Bacterial Vaginosis Among Patients with Vaginal Discharge

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One hundred and fifty women complaining of vaginal discharge were studied in this project to find out the incidence of bacterial vaginosis. Amsel's clinical criteria were used for diagnosis. Out of these 150 patients 42 were found to be suffering from bacterial vaginosis giving an incidence of 28% in women complaining of vaginal discharge. Regarding the age incidence most of the patients with bacterial vaginosis (71.4%) were between the ages of 20 to 39 years with peak incidence(40.5%) in the age group of 30 to 39 years. Regarding the other associated findings, Candidiasis was found in five patients, Trichomoniasis in one patient and vaginal actinomycosis also in one patient. Eight patients revealed cervical erosion while six patients had Copper T in the uterus. Two patients complained of pruritis vulvae, five burning micturation, five having menstrual disturbances and seven complained lower abdominal pain. One patient was diabetic. The results were tabulated and compared with other studies on this subject.

**Key Words:** Vaginosis. Vaginal discharge. Amsel's criteria.

Bacterial vaginosis is an abnormal condition of the vaginal ecosystem caused by the overgrowth of both aerobic and anaerobic vaginal bacterial flora<sup>1</sup>. The term vaginosis is now accepted for this condition rather than vaginitis since it does not produce an outpouring of white blood cells<sup>2</sup>. It is the most common type of vaginal infection worldwide among women of reproductive age and accounts for at least one third of all vulvovaginal infections<sup>3</sup>. Upto 90% of women being treated at clinics of sexually transmitted diseases can have bacterial vaginosis<sup>4</sup>. Previously any vaginal discharge that was not due to gonorrhoea, trichomonas or Candida albicans was referred to as nonspecific vaginosis<sup>5</sup> and considered to be caused by an organism called Haemophilus vaginalis<sup>6</sup> but latter on it was found that this organism is not a haemophilus but Corynebacterium vaginalis<sup>7</sup>. However criteria for corynebacterium species were not fulfilled by this organism and it is now finally called as Gardnerella vaginalis<sup>8</sup>. Bacterial vaginosis is once said to be caused by Gardnerella vaginalis in conjunction with mixed anaerobic bacteria<sup>9</sup> including peptostreptococci, bacteroides and mycoplasma<sup>10</sup>. Bacterial vaginosis and its causative organisms have been associated with obstetric morbidity and mortality<sup>11</sup>. There is also an increased risk of urinary tract infections(12). Therefore every physician providing primary care for the women must know how to diagnose bacterial vaginosis and purpose of present work is to determine the incidence of bacterial vaginosis in our women.

## Materials and Methods

This study was carried out on 150 patients presenting with vaginal discharge in the outpatient department of Sir

Ganga Ram Hospital, Lahore. The patients who had taken antibiotics or used vaginal antimicrobials in previous 14 days, had undergone hystrectomy, pregnant or menstruating at the time of examination were excluded from this study. A detailed and complete history including age, parity, marital status, duration, colour, consistency and smell of vaginal discharge, menstrual cycle, lower abdominal pain and urinary complaint was taken. Abdominal examination was carried out for any tenderness and mass in the lower abdomen. Speculum examination was done using non-lubricated Cusco's speculum to inspect vaginal wall, cervix and characteristics of discharge. The patient was evaluated for bacterial vaginosis using clinical diagnostic criteria (also called composite or compound criteria) proposed by Amsel et al<sup>1</sup>. Patient was considered to have bacterial vaginosis if three of the following four characteristics were observed in vaginal discharge.

1. pH > 4.5.
2. Presence of homogeneous vaginal discharge.
3. Fish like amine odour upon alkalization of vaginal secretions with 10% potassium hydroxide.
4. Presence of Clue Cells in wet mount preparation of vaginal discharge.

## Results

Out of 150 women studied in this project, 42 were found to have bacterial vaginosis by Amsel's clinical criteria giving an incidence of 28% in women complaining of vaginal discharge (Table-1). Regarding the age incidence most of the patients with bacterial vaginosis (71.4%) were between the ages of 20 to 39 years with peak incidence(40.5%) in the age group of 30 to 39 years(Table-I). Regarding the other associated findings in

## Incidence of Bacterial Vaginosis Among Patients with Vaginal Discharge

these patients with bacterial vaginosis (Table-2), Candidiasis was found in five patient, Trichomoniasis in one patient and vaginal actinomycosis also in one patient. Eight patients revealed cervical erosion while six patients had Copper T in the uterus. Two patients complained of pruritis vulvae, five burning micturation, five having menstrual disturbances and seven complained lower abdominal pain. One patient was diabetic.

Table-I: Incidence of Bacterial vaginosis in different age groups.

Age Group (Years)	Total No	Cases %	Bacterial No.	Vaginosis %
< 19	2	1.3	1	2.4
20-29	57	38.0	13	30.9
30-39	52	34.7	17	40.5
40-49	28	18.7	8	19.0
>50	11	7.3	3	7.1
Total	150	100	42	100

Table 2. Other associated findings in patients having bacterial vaginosis

Associated findings	No. of Pts.	%age
Candidiasis	5	11.90
Actinomycosis	1	2.38
Trichomoniasis	1	2.38
Cervical erosion	8	19.05
Copper T	6	14.28
Pruritis vulvae	2	4.76
Diabetes	1	2.38
Burning micturation	5	11.9
Menstrual disturbance	5	11.90
Lower abdominal pain	7	16.67

### Discussion

Bacterial vaginosis (BV) represents a unique upheaval of complex vaginal bacterial flora with disappearance of lactobacilli and overgrowth of Gardnerella vaginalis and anaerobic vaginal bacteria<sup>13</sup>. Currently it is the most prevalent infectious cause of vaginitis. It is 3 times more common than Candidiasis, 8 times more common than trichomoniasis or chlamydia infection and 100 times more common than gonorrhea<sup>14</sup>. In our study incidence of bacterial vaginosis was 28%. Other studies on the same subject give more or less similar incidence as Steinhandler et al<sup>15</sup> has reported an incidence of bacterial vaginosis 29% in their patients while Thomason<sup>16</sup> and Esbench<sup>3</sup> reported 31% and 33% respectively whereas Reis et al<sup>14</sup> gave a higher incidence of 38% in their patients. Among the clinical criteria homogeneous discharge is not a reliable criteria of disease because it is difficult to differentiate homogeneous discharge from follicular discharge<sup>16,4</sup> because of variations from one examiner to other in evaluating the discharge. pH of the discharge is however a better evaluating criteria because individual

variations in describing it are minimal but variation in the pH of vaginal discharge can occur because of many reasons including recent intercourse, menses and different sampling times within the menstrual cycle<sup>16</sup>. Therefore the use of pH>4.5 alone as an indicator of bacterial vaginosis would result in erroneous diagnosis. Amine test is even more reliable and it is said that in the absence of microscope, the amine test provides a specific and relatively sensitive method for diagnosing bacterial vaginosis<sup>16</sup>. However diagnostic precision is improved by confirming that unprotected sexual intercourse has not occurred in the preceding 24 hours. Detection of clue cells on microscopy was the most specific way of diagnosing bacterial vaginosis. Regarding the other associated finding we could find candidiasis in only two of our patients. This association is however mentioned in larger number of patients in other studies<sup>14</sup>. In our patients six out of eleven women with intrauterine contraceptive device (Copper T) had bacterial vaginosis (More than 50%) which is consistent with the finding of Bhall et al<sup>11</sup>. Another significant association is urinary tract infection which was complained by five of our bacterial vaginosis patients whereas Harmanli<sup>12</sup> and his associates gave a much high incidence of 22.4%. This difference is due to the fact that we have not cultured their urine.

It is concluded that bacterial vaginosis is the commonest cause of vaginal discharge occurring in women attending the obstetrics and gynecology units and because of its association with obstetric and other complications, attending physician should be able to diagnose it clinically by simple criteria as evaluating the type of discharge, its pH>4.5, fishy odour on alkalization (Amine test) and detecting Clue cells in wet mount preparation. So that appropriate treatment be given to prevent its sequelae

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