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ROLE OF LACTOBACILLUS IN BACTERIAL VAGINOSIS(BV) AND VAGINAL DISCHARGE

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Abstract:

Objective- *To examine the job of lactobacillus in bacterial vaginosis and vaginal discharge*

Methodology- *For this all patients were selected who had the problem of vaginal discharge and after this patients who had normal discharge through vaginal and who had bacterial vaginosis were separated and on both of these groups the role of lactobacillus was observed.*

Findings- *In this study 270 patients were selected in which 140 patients were suffering the problem of normal vaginal release while remaining 60 of them were suffering in bacterial vaginosis. On both of these groups the role of lactobacillus was thoroughly observed. Patients who had normal release through vaginal 85.7% of them had a count of lactobacillus greater than 106(CFU/mL) while the patients who had bacterial vaginosis, 85% of them had a count of lactobacillus less than 106(CFU/mL). With the help of the test of Fisher's exact, the increase in lactobacillus count in normal vaginal discharge and decrease in lactobacillus count can be demonstrated (at P value = 0.001) .*

Conclusion- *In this study it can be concluded that there is a relationship of increased count of lactobacillus and decreased count of lactobacillus in normal and bacterial vaginosis respectively.*

Keywords: *Lactic acid; Vaginal discharge; Bacterial vaginosis; Lactobacillus.*

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INTRODUCTION:

There are two types of vaginal discharge one can be pathogenic and other one is non-pathogenic. There is no typical cause of non-pathogenic vaginal discharge as it emerges itself due to the transudation in the walls of vaginal. Due to lactobacillus in the mucus of vaginal and the fermentation of glycogen in the vaginal cells of keratinized cells lactic acid is formed. With the help of estrogen this process can be control. In lower female genital tract, the absence or presence of lactobacilli can in this manner be a helpful marker for typical or anomalous conditions. Concentration of primary commensal microorganisms lactobacilli is 10^5- 10^6 with settlement shaping units for each ml of vaginal fluid but remaining commensal microscopic organisms happen in focus underneath 105 CFU per ml of vaginal fluid. Due to the vaginal microbial biological system, the most general disorder is BV, and it can be characterized by the 3 common features.

- Pathogenic bacteria are produced due to the decrease in the lactobacillus count due to which hydrogen peroxide and lactic acid is formed
- The mixed flora concentration is increased which contain genital Mycoplasma, Bacteroids, Gardnerella vaginalis etc.
- The decrease in the concentration of of acidity of vagina from the typical range is due to the increase in the pH from 4.5 due to which quantity and quality of release changes.

Sexual transmission might be the causes of BV, but the main cause of BV is not found yet. There are many reasons of BV for example, excessive smoking, having sex with various partners, unawareness of BV, marital status and low status of socioeconomic. During the time period of pregnancy, due to a lot of complications infections in the vaginal can be arise which affect both baby and mother. The risk of many disease related to sex for example sexually transmitted diseases and HIV also increase due to the bacterial vaginosis.

Following are the main objective of this study.

- To find out the normal vaginal discharge patients from different status of socio-economics
- To find out the main causes due to which bacterial vaginosis may arise and the effective treatment for this
- To find out the main causes due to which vaginal discharge may arise and the effective treatment for this
- To find out the relationship in lactobacillus in normal and bacterial vaginal.

METHODOLOGY:

In Jinnah hospital of Lahore, the patients having vaginal discharge were thoroughly examined. In this study all patients were selected who had the problem of vaginal discharge and after this patients who had bacterial vaginosis through vaginal and who had normal discharge were separated and on both of these groups the role of lactobacillus was observed. In this study 270 patients were selected in which 60 of them were suffering in bacterial vaginosis while remaining 140 patients were suffering the problem of normal vaginal discharge. By the criteria of Nugent and Amsel, the whole diagnosis for BV was done.

In case of diagnosis through the criteria of Amsel, following features can be find out.

- The pH is greater than 4.5 of vaginal.
- A consistent thin vaginal discharge
- From the vaginal discharge the consistent release of fishy amine odor

By examining the gram recolored spreads Bacterial vaginosis was determined. Every Gram recolored smear was assessed under (1000 X oil drenching magnification) and at least 10-20 fields were tallied and normal decided. On a 10 point scale BV was evaluated where:

- 0-3 is viewed as Normal (Predominantly lactobacillus)
- 4-6 is viewed as Intermediate (Mixed vegetation)
- 7-10 is viewed as indicative of BV (No lactobacillus)

Table 1: Chart for the criteria of Nugent

Grade	Average number of bacteria per field	Score		
		Gram + ve	Gram -ve	Mobiluncus species
4+	>30	0	4	2
3+	6-30	1	3	2
2+	1-5	2	2	1
1+	< 1	3	1	1
0	0	4	0	0

In this chart the Gram +ve is used for the lactobacillus while Gram –ve is BV showing the anaerobic flora. By dding the positive and negative gram the final score of BV was calculated.

RESULTS:

To find out the end results of this study the patients were selected who had the disorder of vaginal discharge and then patients who had normal vaginal discharge and who had BV were separated and on both of these groups the role of lactobacillus was examined. In this study 270 patients were selected in which 140 patients were having the disorder of normal vaginal release and remaining 60 were suffering in bacterial vaginosis. On both of these groups the role of lactobacillus was thoroughly examined. The patients who had bacterial vaginosis, 85% of them had a count of lactobacillus less than 106(CFU/mL) while patients who had normal release through vaginal 85.7% of them had a count of lactobacillus greater than 106(CFU/mL). With the help of the test of Fisher's exact, the increase in lactobacillus count in normal vaginal discharge and decrease in lactobacillus count can be demonstrated (at P value = 0.001)

Table 2. Causes of diseases related to Vagina

Cause	Total patients	%age
BV	60	22.22
Normal VD	140	51.85
Candidiasis	43	16.25
Trichomoniasis	20	7.25
Gonococcal cervicitis	7	2.43
Total	270	100

There is a relationship of increased count of lactobacillus and decreased count of lactobacillus in normal and bacterial vaginosis respectively.

Table 3. In BV and VD lactobacillus count

Lactobacillus Count (CFU/ml)	**Normal VD**		**BV**	
	n	Percentage	n	Percentage
$\leq 10^3$	15	10.71	41	68.33
$10^4 – 10^6$	5	3.57	10	16.67
$\geq 10^7$	120	85.72	9	15.00
Total	140		60	

In this study the age of the patients was in between 15 to 50 years and the mean age was 28 years for the vaginal discharge, likewise the mean age for the BV patient was also 28 years.

Out of 270 patients only 33 patients were unmarried and 167 was married. The number of BV patients who were not married was only 3 while in married people total 57 patients were suffering in the disorder of BV.

In this study it was also found that if the people who ad sex with multiple people then in that person there will be more chances of BV as results shows that 23 patients who had multiple sex partners were suffering in BV.

The patients were divide into groups on the basis of absorption history that means that either one has absorption history or not. In the selected patients 118 patients had no history of absorption wile 82 had the history of absorption and the patients who had history 34 of them were suffering BV and 26 patients who had no history were also suffering in BV.

Table 3. Absorption history

Criteria	**Total number of patients**	**BV**		**Normal VD**	
		n	Percentage	N	Percentage
History of Abortion	82	34	41.46	48	58.54
No Abortion	118	26	22.04	92	77.96
Total	200	60		140	

In this study there was no relation find out in between literacy and BV, as 120 patients were literate and80 of them were not. In this out of literate people 35 were having BV while 25 illerate were suffering in BV.

DISCUSSION:

There was no typical cause was found in this study of non-pathogenic vaginal discharge as it emerges itself due to the transudation in the walls of vaginal. Lactic acid is formed due to lactobacillus of the vaginal mucus and the fermentation of glycogen in the vaginal cells of keratinized cells. With the help of estrogen this process can be kept in under control. In lower female genital tract, the absence or presence of lactobacilli is very useful indicator for typical or anomalous conditions. Concentration of primary commensal microorganisms lactobacilli is 10^5- 10^6 with settlement shaping units for each ml of vaginal fluid while other commensal microscopic organisms happen in focus underneath 105 CFU per ml of vaginal fluid.

Sexual assisted and transmitted are the causes of BV, but the main cause of BV is not found yet. There are many reasons of BV for example, having sex with various partners, excessive smoking unawareness of BV, marital status and low status of socioeconomic.

The mean age was 28 years for the vaginal discharge, likewise the mean age for the BV patient was also 28 years. Out of 270 patients only 33 patients were unmarried and 167 was married. So there was no significant relation was found in the married and unmarried patients with the Bacterial vaginosis disorder. The number of BV patients who were not married was only 3 while in married people total 57 patients were suffering in the disorder of BV.

As having multiple partners for sex is also the reason for BV, and in present study it was discovered that people who had sex with multiple people then in that person there will be more chances of BV as results shows that 23 patients who had multiple sex partners were suffering in BV.

In pregnancy, due to a lot of complications, infections in the vaginal can be arise which affect both mother and baby. The diseases like sexually transmitted diseases and HIV also increase due to the bacterial vaginosis.

In this study there was no relation find out in between literacy and incidence of BV and also there was no relation between dwelling and incidence of bacterial vaginosis, as 120 patients were literate and80 of them were not. In this out of literate people 35 were having BV while 25 illiterate were suffering in BV. In present study significant relation was found between the absorption history and incidence of bacterial vaginosis. The patients were divide into groups on the basis of absorption history that means that either one has absorption history or not. As 118 patients had no history of absorption while 82 had the history of absorption and the patients who had history 34 of them were suffering BV and 26 patients who had no history were also suffering in BV.

CONCLUSION:

Bacterial vaginosis is the very common disease in the sexually active women and it is also the main cause of vaginal discharge. In this study it can be concluded that there is a relationship of increased count of lactobacillus in normal vaginal discharge and decreased count of lactobacillus in bacterial vaginosis. Due to the bacterial vaginosis the risk of other diseases like HIV and abnormal cervical cytology also increases.

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