

Study of Aerobic Microbial Causes Associated with Human Vaginitis in Al-Diwanyia City

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Abstract:

Female genital tract may become the site of colonization of many microbes, which may be pathogenic. In this study about 72 sample of woman patients were screened for aerobic microbial causes. It was found that about (34.72 %) of cases were caused by *Candida albicans*, the other causes was found to be *E. coli* (20.83 %), *Staphylococcus aureus* (9.72 %), *Staphylococcus epidermis* (9.72 %), *Streptococcus agalactiae* (9.37 %), *Lactobacillus* (6.94%), *Proteus spp.*(4.16 %), *Enterobacter spp.*(2.77 %), *Gardnella vaginalis* (1.38 %) and *Klebsilla pneumoniae* (1.38 %).

Introduction:

Female genital tract is an important site for microbial colonization and infection, various groups of microbes can cause vaginitis (Mims *et al.*,1995). Vaginitis is a name given to describe swelling, itching, burning which is some manifestations of vagina infection, that can be caused by several different germs , this is a common gynecological problem found in women of all ages, with most women having at least one of vaginitis during lives (Brooks *et al.*, 2001).

Vaginal infections often occur when women's natural resistance is lowered by anxiety, tension, lack of sleep, poor diet, and sexual activity with an infected partner (Quen, 2000). In addition, the vaginal environment is influenced by a number of different factors including a woman's health, her personal hygiene, medications,

hormones (particularly estrogen) and the health of her sexual partner, a disturbance in many of these factors can trigger vaginitis.

Vaginal infection can produce a variety of symptoms, such as abnormal or increased discharge, itching, fishy odor, irritation and painful urination or vaginal bleeding (Spaker, 1991).

Microorganisms such as *Candida albicans*, *Staph. epidermis*, *Pseudomonas aeruginosa*, *Lactobacillus* spp, *Klebsilla pneumoniae* , *Streptococcus* spp. and many other microbes are usually correlated with vaginitis (Perera, 1994; Mimes *et.al.*, 1995 ;Habbeb, 2003), while Abdul lateef, (2005) have isolated yeast, *Staphylococcus epidermidis* , *Pseudomonas aerogenus* , *Lactobacillus* , *Klebsilla pneumoniae* , *Streptococcus agalactiae* , *Moraxella catarrhalis* and *Acentobacter* spp.

Materials and Methods :

Seventy two samples were collected from woman patients suffering from severe to moderate vaginitis. The swabs are inserted into upper part of vagina and rotated there for withdrawing it, so that exudate is collected was collected from the upper as well as the lower vaginal wall, an endocervical swab must be collected. A vaginal speculum must be used to provide a clear sight of the cervix and the swab is rubbed in and around the introitus of the cervix and withdrawn without contamination from vaginal wall, swab for culture should be placed in tubes containing normal saline to maintain the swab moist until taken to laboratory, the swab has been inoculated on culture media and incubated aerobically for 24 hour at 37 C° (Gray and Lechmman, 1999).

Isolated bacteria were tested macroscopically and microscopically (Brooks *et al.*,2001). Biochemical testing was carried for confirming results (Collee *et al.*, 1996; Macfaddin, 2000).

Results:

Seventy two vaginal swabs obtained from women who suffering from vaginitis admitted to Al-Diwanyia Hospital for maternal and delivery. All swabs were subjected for culturing on available media and it was showed that about 34.72 % of isolates was *Candida albicans* and about 65.28 % was bacterial isolates as shown in table (1).

Different group of microbes were diagnosed including *E. coli*, *Staph. Epidermis*, *Staph aureus*, *Strept. agalactiae*, *Lactobacillus*, *Proteus spp.*, *Enterobacter spp.*, *Gardenlla vaginalis* , *Klebsilla pneumoniae* .

Table-1 : Microbial isolates of human vaginitis in Al-Diwanyia city.

<i>Isolates</i>	<i>Number</i>	<i>Percentage %</i>	<i>Notes</i>
<i>Candida albicans</i>	25	34.72	Most of infected women has vaginal discharge and itching.
<i>E. Coli</i>	15	20.83	
<i>Staph.epidermis</i>	7	9.72	
<i>Staph. auerus</i>	7	9.72	
<i>Strept. agalactiae</i>	6	9.37	
<i>Lactobacillus spp.</i>	5	6.94	
<i>Proteus spp</i>	3	4.16	
<i>Enterbacter spp.</i>	2	2.77	
<i>Gardenlla vaginalis</i>	1	1.38	
<i>Klebsilla pneumoniae</i>	1	1.38	
	72	100 %	

Discussion :

From seventy-two samples, our results showed 52 isolate of *Candida albicans* and about 47 isolate was belongs to bacteria, which included in (table-1). Yeast live normally in the vagina in small numbers. Yeast infection occurs when there is an over balance of yeast often caused by change of pH balance of the vagina (Monif and Carson, 1998). Since yeast is normally present and well balanced in the vagina, infection occurs when something women's system upsets this normal balance. In this case, the antibiotic kills the bacteria that normally maintained the balance of the yeast in the vagina. In turn, the yeast overgrows, causing an infection (Mims *et al.*,1995). Other factors that can cause imbalance to occur include pregnancy which change hormone levels, and diabetes which allows too much sugar in the urine and vagina (Sobel and wiehaim,1996).

Previous local study have confirmed the presence of yeast in cases of vaginitis (Habbeeb ,2003 ; Chaly, 2001).

In addition to yeast, bacterial isolates are found in an healthy vagina, and it reveals that these bacteria are more predominant than yeast, some of them are pathogenic and others might be normally isolated from intact vagina (Mims *et al.*,1995; Sobel and wiehaim,1996).

The results of bacterial isolation (table-1) showed that *E. coli* was more frequent about 15 isolate, *E. coli* is a very common pathogen in urinary tract infections (Mims *et al.*,1995). And followed by *Staph. epidermidis* and *Staph. aureus* in the second level which correlated with the results of Perera ,(1994) and Abdul-Lateef (2005). The other bacterial isolates showed the presence of *Streptococcus agalactiae*, *Lactobacillus* ,*Proteus* spp., *Enterobacter* spp., *Gardenlla vaginalis* and *Klebsilla pneumoniae*.

Many isolates of these bacteria are considered as normal flora of vagina such as *Staph. epidermidis* and *Lactobacillus* (Brooks *et al.*, 2001). *Lactobacillus* helps to maintain the low pH of the normal adult female genital tract by production of lactic acid and they rarely cause disease (Sobel and Chaim ,1996). *Klebsilla pneumoniae*

rarely present in healthy vagina, its found usually in cases of imbalance of Lactobacillus (Abdul-Lateef, 2005). Proteus species usually associated with urinary tract infections and some times correlated with renal calculi, due to the presence of virulence factors which enable this bacteria to colonize the urogenital tract (Mims *et al.*, 1995 ; Brooks *et al.*, 2001). Gardenlla vaginalis usually considered a remarkable indicator of bacterial vaginosis and its some times found in healthy vagina (Mims *et al.*, 1995).

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دراسة الميكروبات الهوائية المرافقة لالتهاب المهبل عند النساء في مدينة الديوانية

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الخلاصة

أن القناة التناسلية عند النساء تعتبر مكان هام لتواجد الميكروبات المختلفة والتي يعتبر بعضها ممرضاً. في هذه الدراسة تم فحص 72 عينة من نساء مصابات بالتهاب المهبل، وبعد التحري عن المسببات الميكروبية الهوائية، وجد بأن نسبة (34.72 %) كانت *Candida albicans* وكان في بقية الحالات مسببات بكتيرية، (20.83 %) *E. coli* (9.72 %) *Staphylococcus aureus* (9.72 %) *Staphylococcus epidermis* في حين (9.37 %) *Streptococcus agalactiae* (6.94%) *Lactobacillus* (4.16 %) *Proteus spp.* (2.77 %) *Enterobacter spp.* (1.38 %) *Gardenlla vaginalis* (1.38 %) and *Klebsilla pneumoniae* (1.38 %).