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SEROPREVALENCE OF CYTOMEGALOVIRUS (CMV) AND DETECTION OF BACTERIA IN ABORTED WOMEN

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Abstract

The results of the current study, which included the diagnosis of (68) samples of aborted women. The higher concentration of IgG and IgM at age group (19-25) about 76.3 ± 8.24 and 0.236±0.069. The highest rate of isolation of bacteria from vaginitis in women with abortions is *Lactobacillus* (25) isolates of the total (68) bacterial isolates Followed by *Staphylococcus* spp, isolating 15 isolates by 22%, then *E. coli* with 13 isolates (19.2%), *Staphylococcus aureus* (8) isolation by 11.8% and *Klebsiella* (7) By 10.3%.

Keywards : Bacterial vaginitis , Cytomegalovirus , Abortion

Introduction

Abortion in medicine is defined as the withdrawal of the contents of the pregnancy before the completion of twenty weeks, including types of abortions, abortions, abortions, miscarriages and repeated miscarriages known as pregnancy loss 20 weeks ago and 15-20% of abortion rates in general. One in 1 percent of women in the world have recurrent miscarriages, and in medicine they know that when abortion occurs three times in a row, and if more than three times occur, there is little normal pregnancy. It is caused by chromosomal abnormalities occurring in women over the age of 35, uterine deformities, ovarian malformation, coagulation, and burning of fat-burning beverages such as herbs such as cinnamon or ginger, which cause high Body temperature is therefore advised to be careful not to drink during pregnancy as well as the use of vaginal detergents containing chemicals and bacterial vaginal infections. Several studies have confirmed a relationship between B.V. (Premoms rupture of Membrane (PROM), premature delivery, pyelonephritis and placenta (Brooks *et al*., 1998), as well as postpartum endometriosis, cesarean delivery, and low birth weight infants Birth weight and the incidence of preterm abortion (Goldenberg *et al*., 1996: Ralf *et al*.,1999). Immediate reporting by women of any infection symptoms is important to reduce the risk of infection and potential complications. Symptoms of infection may include fever, chills, increased pain, vaginal discharge and increased bleeding.

There are several causes of vaginitis including bacteria called bacterial vaginitis due to the imbalance and interference between the types of anaerobic bacteria that cause inflammation in comparison to the deficiency in the bacteria Lactobacillus, which is normal flora of the flora normal flora (Romanik, and Martirosian, 2004). Increase the rate of infection of bacteria to possess many factors of virility that increase the severity of its diseases, including enzymes such as hemolysin enzyme, protease, labyrinth, home enzymes and other factors.

Bacterial vaginitis (BV) is one of the most common venereal diseases in women during pregnancy and childbirth (Virginia *et al*., 2000). Bacterial vaginosis is a common condition among pregnant and non-pregnant women (Rein and Holmes, 1983). BV was previously a normal or non-serious condition, but it was associated with many cases and complications of pregnant women's diseases including pelvic inflammatory disease, vaginal tumor, endometriosis, preterm labor, premature rupture of membranes and spontaneous abortion (Hay *et al.*, 1994).

Bacterial vaginosis occurs after the bacteria enter the uterus during abortion and cause infection in the pelvic area. It is possible to treat infections with antibiotics. Women feel weak and fever lasting more than 24 hours or higher than 38 C, abdominal pain, or bleeding a lot or for a long time, Or having foul-smelling vaginal discharge should be immediately treated with antibiotics. Any serious bacterial or viral infection can lead to miscarriage, either through Toxoplasmosis, Rubella, Listeriosis, or Herpes

The cytomegalovirus causes serious fetal malformations such as intrauterine growth disorder, smallness of the head, intracranial calcification, hearing and vision impairment, etc. The virus travels through body fluids and through sexual contact. The virus can also spread from mother to fetus, The mother was infected at the beginning of pregnancy**.**

The aim of the study

The prevalence of bacterial vaginitis in women with abortions and the recent incidence of high-density cytomegalovirus, the current study aimed at determining the percentage of bacterial and viral infections among women

Materials and Methods

Collection of Samples

Samples of serum aborted women were collected to the operating theater at Hilla Teaching Hospital and Hashmeia General Hospital with 68 samples of women (women with abortions) ranging in age from 19 years to 53 years. using CMV-specific IgG and IgM ELISA technique for all the

Patients and for 68 control sera, Screening for IgG antibodies to CMV is useful to detect previous exposure to CMV. By detecting the Cytomegalovirus specific antibodies in serum samples, and by differentiating the IgM and IgG antibodies, the CMV antibody tests can determined the immune and the infection status of the patients.

The Anti CMV IgG and IgM antibodies concentrations were measured in international unit / ml using standard

curve, ELISA methods were done as in (Mangano and Gruninger, 1996).

Vaginal swabs were taken using a special vaginal opening machine and then Sim's Speculum Then insert sterile cotton swabs within 2 cm inside the vagina and gently spin towards the vaginal wall before pulling the scanner, vaginal swabs were placed in sterile glass tubes containing the carrier medium Brain heart infusion broth (Holt *et al* .1994). It was planned for the bacterial cultivars of Nutrient Agar, Eosin methylene blue, Mannitol salt agar, Chromo agar and MRS Agar, and incubated at 37 °C for 24-48 hours (Criage and Lechman 1998). Bacterial colonies were identified, negative and positive isolates were identified under the microscope using Gram stain and cells were identified and arranged under a microscope (Collee *et al* ., 1996). All bacterial isolates that were tested for biochemical tests, which included the examination of indole, red-methyl, and vox-proscar, were consumed (Mac Faddin, 2000).

Statistical Analysis

Use the U.S. Census (SPSS 11) to perform statistical analysis, as analyzed the results using the design random full-scale analysis of variance and adopted the test less significant differences Least significant difference test (LSD) and table analysis of variance (ANOVA Table) below the level of significance 0.05 (Niazi, 2004).

Results and Discussion

Many bacterial genera were isolated from vaginal swabs of aborted women, *Lactobacillus* (25) isolates from bacterial isolates (36.7%) gram positive bacteria that were normal in the vagina followed by *Staphylococcus* spp. (15 isolates) were isolated (22%), *Escherichia coli* (13) isolates (19.2%) which is negative for gram stain (AL-thwani and Bushra (2010), *Staphylococcus aureus* (8) isolation by (11.8%) and *Klebsiella* (7) isolates by (10.3%)The results were less than the rate of (Al-Mashhadani et al.,2006), where it was isolated by (51.6%) but more than the isolation rate to (Ali, 2010), isolating it by 1.2% and approaching to 7% (Florica, 2013) due to the difference in the percentage of isolation of different methods of collection of samples and the difference in place and time of collection in addition to different methods of isolation of bacteria, and the isolation of these bacteria of women with infertility and ectopic pregnancy and also inflammation of the peritoneal associated with cervical cancer and pelvic abscess associated with uterine cancer (Davis *et al*., 1990).

Staph. aureus 8 (11.8%) in the women who are abortive and are positive gram stain , these results were less than (AL-thwani and Bushra,. 2010), which isolated by 25.61% (Farhan *et al*.,2012), which isolated by (10%) and also higher than (Ali, 2010), which found by (6.3%). The reason for this difference in the ratio of isolation to the number of samples studied, this causes the demolition of epithelial epithelium, ulcertation is due to the use of certain mechanical factors such as the use of tampone and IUD in addition to the low level of estrogen during menopause which creates the Appropriate conditions for vaginal lesions also cause toxic shock syndrome (TSS) (Jawetz *et al*., 2001).

There are some obvious mechanisms involved in intrauterine infection at the end of pregnancy that differ from those that cause abortion. Inflammatory inflammatory reactions following infection due to bacterial vaginosis can lead to spontaneous abortion (Donders *et al*., 2000).

In a study conducted in 1996 in England, 500 cases of repeated miscarriage were screened and a higher rate of BV was found in those with a history of miscarriage in the second quarter compared to those with early abortion (Hillier, 1993).

Bacterial infection is an unusual complication of abortion as it is possible to enter the bacteria from the vagina of the enlarged cervix and from there, go up in the uterus and fallopian tubes. Antibiotics are often given at the time of abortion to "get rid of" the potential infection. A bacterial vaginal infection causes miscarriage in the second part of pregnancy and may cause premature birth and treatment in this case is done with antibiotics

As for intestinal bacteria causing BV, such as *Proteus, Klebsiella, E. coli* and *Pseudomonas*, they form part of the natural flora of the gastrointestinal tract and because of the anatomical nature of the vagina. The opening hole is close to the opening of the vagina, which increases the rate of transmission of these bacteria from its original location To the vagina, as well as to the rest of the types of isolated germs, some of which forms part of the natural anaerobic flora of the vagina, such as bacteria Bacteroides or that some of these bacteria may be exogenous. The variation in the proportions and numbers of isolated bacteria may be due to several factors including that some of the bacteria are due to the natural flora of the vagina, the digestive tract or flora of the skin or to external origin due to differences in cultural and educational level factors and the health status and living conditions of pregnant women under study (Al-Salim *et al*., 2005). Post-abortion infection is not well defined as a particular type of infection in medical abortion studies where the most common infection is endometriosis, tract, reproductive system and urinary system.

Cytomegalovirus infections are being reported to be the causative of abortion in women, (Table-2). The infection was higher in 27 years old, Such findings were reported by (Karrer *et al*., 2009). The humoral immune profile for these patients were showed seroconvertion (P=0.05) in IgG isotype

The absence of IgM antibodies with Positive IgG results, in, most often are indicative of past Cytomegalovirus (CMV) infection and do not necessarily assure protection from future infection with CMV.

The primary or recurrent infection showed Positive IgM results to Cytomegalovirus (CMV). The antibodies of IgM can persist for 2 to 9 months after the initial infection. Not all patients with reactivated CMV infection will have detectable levels of IgM antibodies. A negative result does not eliminate the possibility of cytomegalovirus (CMV) infection (Ahmed, 2013).

According to age, bacterial vaginosis in all ages has reached the highest rate of infection (44%) in the age group (19-25) years, with women being more fertile and exposed to bacterial infections and the lowest percentage (4%) in the age group (47-53) (40%) in the age group (19-25) years and the lowest percentage (8%) in the age group (40-46). The percentage of women in this age group is low for pregnancy and fertility. This may be due to the vaginal tissue composition and the vaginal tissue of women, their susceptibility to bacterial pathogens, attention to personal

hygiene, the use of sterilizers, antiseptics, (Acikgoz *et al*., 2002) has shown that age is one of the factors responsible for the normal variability of the vaginal fluid and causes periodic appearance of certain pathogens.

The reason for the high rates of vaginal infection in the age groups (19-25) and (26-32) years is due to these ages represent the early years of marriage, which increase sexual activity, in addition to the arrival of reproductive hormones.

To the highest level, for those ages 46 and over where sexual activity is low and the pH of the vagina returns to low acidity (Al-Ani, 2005), as shown in Figure 1 and Figure 2, the relationship between infection and age groups**.**

Table 2 : Bacterial ratios of aborted women

Bacteria	No.	Percentage
Lactobacillus	25	36.7%
Staph. aureus	8	11.8%
E. coli	13	19.2%
Staph .spp.	15	22%
Klebsiella pneumonia	7	10.3%

Table 2 : The level of IgG and IgM in patients:

Age-year	Groups	Concentration of IgG Mean ± S.D	Concentration of IgM Mean ± S.D
19 -25	control	2.66 ± 0.47	0.133±0.047
	patients	*76.3 ± 8.24	0.236±0.069
26-32	control	1.666±0.47	0.09±0.008
	patients	*57.833±4.28	0.085±0.038
33 -39	control	2.333±0.942	0.233±0.09
	patients	*43.833±3.56	0.3±0.155
40-46	control	1.666±3.274	0.2±0.08
	patients	*31.333±2.65	0.251±0.161
47-53	control	2±0.816	0.166±0.047
	patients	24.166±3. 274	0.17±0.19
*L.S.D	(P<0.05) = 7.318		There are no significant differences

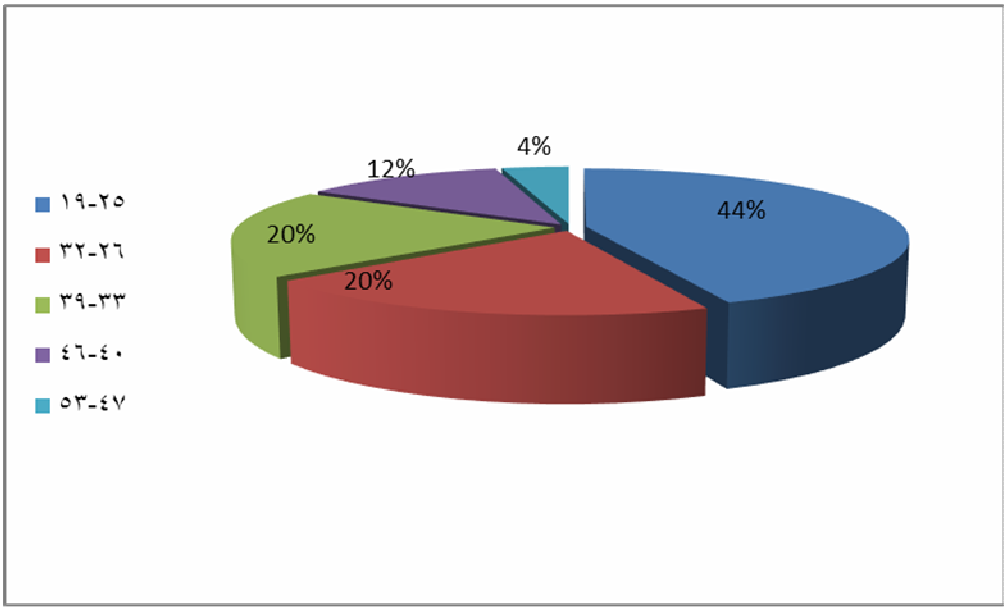

Fig. : Age groups of aborted women

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