Seroprevalence of TORCH Antibodies in Iraqi Women with Miscarriage and Its Relationship with Frequency of Abortion and Trimester of Pregnancy

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Abstract

Early pregnancy loss is one of the most common problems of the reproductive period, which is the longest period of a woman's life. The study aimed at evaluating the seroprevalence of recurrent miscarriage in Iraqi women and relationship with frequency of abortion and trimester of pregnancy. This study was conducted in the city of Baghdad for the period from February 2020 to November 2020. The study included 53 women suffering from recurrent miscarriages who were attending obstetrics and gynecology consultations in various hospitals in the capital, Baghdad, for obstetrics and gynecology in all stages of pregnancy and whose ages were within the standard fertilization period. The study also included 26 women who did not suffer from abortion and had previously successful deliveries. The study included the collection of comprehensive information from the research participants such as, women's age, education, pregnancy, parity, abortion, number of abortions, kinship with their husbands discussed. Regarding abortion, in the questionnaire form, week of abortion, cause of abortion, information such as low type is included. The study showed no significant differences between RPL group and the control group regarding age groups and suggested that, women age haven't effect on miscarriage. The study showed that, 42% of aborted women have only one abortion and 13% have 4 abortion, most of cases aborted in the 1st trimester of pregnancy and nearly 1 third of cases haven't children yet. The study all studied 3 of 53 of cases have IgM against Toxoplasma and 30% of all cases have IgG toward T. gondii, 26% have IgG toward CMV, 24% have IgG toward HSV and 20% have IgG toward rubella. Conclusion: The study showed that Toxoplasma was affect numerous women and cause abortion especially in the 1st trimester of pregnancy.

Keyword: Abortion; Miscarriage; Toxoplasma; CMV; Rubella

1. Introduction

Early pregnancy loss is one of the most common problems of the reproductive period, which is the longest period of a woman's life. Abortion is the most common pregnancy It is a complication of pregnancy with suprapubic pain and vaginal bleeding with uterine cramps. expulsion from the uterus is defined as the disappearance of signs and symptoms of pregnancy [1]. The incidence of spontaneous abortion, which has a wide range, is around 15-40%. Diagnosis and treatment of this condition, which is a disease, is a practice of the branches of medicine dealing with reproduction constitutes one of the most difficult issues [2, 3]. Today, the widespread use of diagnostic and interventional procedures, the use of some biochemical markers, medical, surgical recurrent early pregnancy with treatment and or observation Detection and treatment of the etiology in the loss of can be avoided [4]. Known for the etiology of recurrent pregnancy loss, parental and fetal chromosomal abnormalities, structural uterine anomalies, antiphospholipid syndrome (APS), some thrombophilias, autoimmune diseases and some endocrinopathies. In this study, the evaluation of cases with RPL, the etiological factors. Recurrent pregnancy loss is a common obstetric problem that affects more than 500,000 women each year [5]. The probability of losing a second pregnancy is 24% after two consecutive pregnancy losses, compared to three pregnancies [6, 7]. It shows that it increases to 30% after pregnancy loss and 40% after four pregnancy losses. Among the causes of recurrent miscarriages; genetic, endocrinological, anatomical, immunological [8]. There are microbiological, personal reasons and chromosomal anomalies Cervical insufficiency, embryonic chromosomal diseases such as defects, maternal high fever, acute viral infections, chronic nephritis, heart failure. It can cause fetal anoxia and cause miscarriage. drugs, cytotoxic agents and prostaglandins are predisposing factors for miscarriages. Direct trauma to the uterus, stress, psychological problems such as anxiety can cause pregnancy through the hypothalamic-pituitary system [9, 10]. The study aimed at evaluating the seroprevalence of recurrent miscarriage in Iraqi women and relationship with frequency of abortion and trimester of pregnancy.

2. Material and Method

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This study was conducted in the city of Baghdad for the period from February 2020 to November 2020. The study included 53 women suffering from recurrent miscarriages who were attending obstetrics and gynecology consultations in various hospitals in the capital, Baghdad, for obstetrics and gynecology in all stages of pregnancy and whose ages were within the standard fertilization period. The study also included 26 women who did not suffer from abortion and had previously successful deliveries. The study included the collection of comprehensive information from the research participants such as, women's age, education, pregnancy, parity, abortion, number of abortions, kinship with their husbands discussed. Regarding abortion, in the questionnaire form, week of abortion, cause of abortion, information such as low type is included. The questionnaire was interviewed face-to-face with the women by the researchers. All laboratory tests of microorganisms that cause abortion in women in this study were conducted according to laboratory standards and protocols for detection of IgM and IgG antibodies by using ELISA Technique.

Statistical analysis:
The results were put in a master table then presented in tables and figures according to the parameter studied. The statistical analysis was done by SPSS version 18 for determination of Chi square and excluding of P. value (P value less than 0.05 considered significant).

3. Results

The study showed no significant differences between RPL group and the control group regarding age groups and suggested that, women age haven't effect on miscarriage, Table 1.

Table: Showing recurrent miscarriage women in various age groups.

Age group (Years)	Patients (recurrent miscarriage women)		Control (Healthy)	
	No.	%	No.	%
16 - 20	7	13.21	3	11.54
21 - 25	10	18.87	8	30.77
26 - 30	15	28.30	7	26.92
31 - 35	10	18.87	4	15.38
36 – 40	8	15.09	3	11.54
More than 40	3	5.66	1	3.85
Total	53	100	26	100
P value >0.05				

The study showed that, 42% of aborted women have only one abortion and 13% have 4 abortions, most of cases aborted in the 1st trimester of pregnancy and nearly 1 third of cases haven't children yet, Table 2.

Table 2: Distribution of recurrent miscarriage women according the frequency of abortion; Trimester and Number of babies.

Frequency of abortion	No.	%
Once	21	42 %
Twice	16	32 %
Third	8	13 %
Fourth	8	13 %
Trimester	N	%
First	37	73 %
Second	6	10 %
Third	3	3 %
First & second	7	14 %
No. of babies	N	%
0	15	29 %
1 – 2	19	37 %
3 – 4	13	25 %
5 – 6	6	9 %

The study all studied 3 of 53 of cases have IgM against Toxoplasma and 30% of all cases have IgG toward T. gondii, 26% have IgG toward CMV, 24% have IgG toward HSV and 20% have IgG toward rubella, Table 3.

Table 3: Comparative positive results of IgG and IgM antibody against TORCH (Toxo, Rubella, CMV, HSV) infections among recurrent miscarriage women

TORCH	Positive IgG		Positive IgM	
Toxoplasmosis	No.	%	No.	%
Rubella	15	30	3	100
CMV	10	20	0	0
HSV	13	26	0	0
Total	12	24	0	0
Toxoplasmosis	50	100	3	100
P value: 0.001				

Table 4: positive results of IgG and IgM antibody against TORCH (Toxo, Rubella, CMV, HSV) infections among recurrent miscarriage women according to abortion times

Trimester	Toxo		Rubella		HSV		CMV	
	IgM	IgG	IgM	IgG	IgM	IgG	IgM	IgG
First (n37)	1 (2.7%)	9 (24.32%)	0	8(21.62%)	0	10(27.02%)	0	9 (24.32%)
Second (n:6)	1 (11.11%)	2 (33.33%)	0	0	0	1 (11.11%)	0	2 (33.33%)
Third (n:3)	0	1 (33.33%)	0	0	0	1 (33.33%)	0	1 (33.33%)
First & second (n:7)	0	2 (28.57%)	0	1 (14.29%)	0	1 (14.29 %)	0	3(42.86%)
P value <0.001								

4. Discussion

In our study, no significant differences were observed

between RPL group and the control group regarding age groups and suggested that, women age haven't effect on miscarriage, several other studied also showed similar result (1-3). The study showed that, 42% of aborted women have only one abortion and 13% have 4 abortions, most of cases aborted in the 1st trimester of pregnancy and nearly 1 third of cases haven't children yet. In study done by Mutalib et al. [9] showed that 41.67% of cases with history of miscarriage were with 3 times of miscarriage were within the age group 30-39 years, 69.23% of women with 4 time of miscarriage were in the age group <30 years while 80% of women with history of miscarriage for 5 times and more were above 30 years old. In concurrence with this discovering, Guha et al. [10] expressed that 55% of aborted women have only one abortion and low number have 5 abortion. Hussein et al. [11] exhibited a critical connection of early termination number with ladies explored with past unsuccessful labor and showed that women with have 4 abortion, most of cases aborted in the 1st trimester of pregnancy and nearly 1 third of cases haven't children yet. The study all studied 3 of 53 of cases have IgM against Toxoplasma and 30% of all cases have IgG toward T. gondii, 26% have IgG toward CMV, 24% have IgG toward HSV and 20% have IgG toward rubella Hussein et al. [11] study also showed all the most causes of infection in aborted women were Toxoplasma, CMV and rubella. In numerous studies, suspect cases that toxoplasma must do ELISA tets in general tests before getting pregnant. In general, toxoplasmosis is difficult to diagnose because the symptoms are flu-like. During pregnancy, doctor may order a blood test if they suspect a risk of T gondii infection. Blood tests that check for antibodies to the parasite look for antibodies called IgG and toxoplasma IgM and IgM the best because look for acute infection [12]. Amniocentesis fluid uses a fine needle to remove a small amount of fluid from the fluid-filled sac (amniotic sac) surrounding the fetus. Then tests are done on the fluid taken to check for toxoplasmosis. This procedure can be done safely after the 15th week of pregnancy [13, 14]. Various investigations have ensnared different irresistible specialists in the etiology of repetitive early termination, yet this information stay uncertain since in all accessible reports the quantity of genital living beings refined has been restricted and satisfactory benchmark groups have not been utilized. Viral diseases during pregnancy are very normal. In most of cases the baby is left safe and the pregnancy proceeds normally [15]. Human cytomegalovirus (CMV) is the most widely recognized viral disease sent to the baby, seldom delivering an asymptomatic auxiliary viraemia, during the inactive period of contamination. Intermittent in-utero diseases have been accounted for, despite the fact that it is hard to separate between tainted tissue and pollution from asymptomatic cervical infection [12, 14]. Where many studies have shown that viral infections have a high impact on women and pose major problems for pregnant women, and one of those problems is abortion, especially in the advanced stages of pregnancy in the first weeks, where studies indicated that these viruses lead to disorders and general infections in the lining of the uterus and eventually lead To early abortion, and these studies concluded that women infected with these viruses suffer from abortion when the abortion is repeated annually, especially in women infected with the toxoplasma parasite [16].

Conclusion The study showed that Toxoplasma was affect numerous women and cause abortion especially in the 1st trimester of pregnancy

Recommendation: TORH IgM and IgG must be done for all women suffering from abortion especially who have recurrent abortion

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