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Scientific Report In

Estimation IgG and IgM Titer In Some Pregnant Women Who Infected With Rubella Virus In Hilla City

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وَلَمَّا بَلَغَ أَشُدَّهُ وَاسْتَوَىٰ آتَيْنَاهُ حُكْمًا وَعِلْمًا ۚ

وَكَذَٰلِكَ نَجْزِي الْمُحْسِنِينَ ﴿١٤﴾

الاهداء

مرَّت قاطرة البحث بكثير من العوائق، ومع ذلك حاولنا أن نتخطَّاها بثبات بفضل من الله ومنّه.

إلى أبويّنا وأخوتنا وأصدقائنا، فلقد كانوا بمثابة العضد والسند في سبيل استكمال البحث.

ولا ينبغي أن ننسى أساتذتنا ممن كان لهم الدور الأكبر في مُساندتنا و مدّنا بالمعلومات القيّمة.

نهدي لكم بحث تخرُّجنا.
داعين المولى - عزَّ وجلَّ - أن يُطيل في أعماركم، ويرزقكم بالخيرات .

شكر وتقدير

نشكر الله تعالى على عطائه حيث أتاح لنا إنجاز هذا البحث بفضله، فله الحمد أولاً وآخراً.

نتقدم بجزيل الشكر إلى الدكتورة (أ.م.د. رقية منذر) على تفضلها بقبولها الإشراف على بحثنا هذا.

كما لا يسعنا إلا وان نقدم العرفان والجميل لكل من الاساتذة الافاضل اعضاء لجنة المناقشة ، على تفضلهم بمناقشة هذا البحث .

ونتقدم بجزيل الشكر والتقدير للنخبة الفاضلة من أستاذتنا في كلية الصيدلة لما قدموه لنا من مساعدة وعون في الدراسة التحضيرية ، ونشكر عميد كليتنا الدكتور حسام وهاب صاحب الخفاجي

و يسرنا تقديم هذا الشكر لإبائنا وأمهاتنا الذين سهروا على تربيتنا وتعليمنا منذ أن بدأنا الحياة .

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Abstract

Rubella is a mild viral disease that typically occurs in childhood. Rubella infection during pregnancy causes congenital rubella syndrome, including the classic triad of cataracts, cardiac abnormalities and sensorineural deafness. Highly effective vaccines have been developed since 1969, and vaccination campaigns have been established in many countries. Although there has been progress, the prevention and diagnosis of rubella remain problematic, in the present study including a total of 50 pregnant whom infected with rubella during during pregnancy period . a five ml venous blood was taken from each patient, The seropositivity of the IgM and IgG rubels were investigated , the result of present study showed statistically significant for the different age groups and BMI, IgG, IgM have also shown statistical variations.

Key wards:- abortion , IgM , IgG , rubella and Elisa

Introduction

Rubella is a major disease in Germany causing extreme rubella, rubella virus may be latent for many days (Fokunang et al., 2010). The only place to keep this virus latent was human (Mounerou et al., 2015). In 2-3 weeks, the virus is corrupted. Posnatal and transplacental cases airway for the propagation of breastfeeding (Kolawole et al., 2014). In infancy, virus disease also happens. Fever of low consistency, lymphadenopathy and nervous maculopapular rash are the characteristic of this virus infection. Al-Rubai et al., 2010 (2012). Adults may also have knee pain, fever, or conjunctivitis (Lezan, 2015).

Rubella infection has an 80 % risk of developing a variety of typically congenital defects, leading to fetal growth or death, during the first 12 weeks of pregnancy and in particular during the early 8-10 weeks. The virus initially replicates fetal placenta placental and developments in nasopharyngeal and local lymph nodes and in pregnant women (Care,2015).

However, rubella serology (in developed countries) is not the main problem with diagnosis of new RV infections. Further seroanalysis, such as serological seroconverse testing or significant upgrading of the titer of IgG often needs to be correctly diagnosed. Studies on avidity of IgG and E1 and E2 have also been found to shorten the time required for infection. immunostatics IgG (Best et al., 2002; Best and Enders, 2007).

Rubella is not definitely treated, but vaccination can end the disease. Although disease incidence has decreased to a low level through a vigorous vaccine programme, vaccination has not been done in many of the developing world's countries, including North America, Europe, Japan and Australia. (Brooks etal,2013).

In Tropical areas there are usually strongly pandemics every 20-25 years (Brooks et al. 2007) and there are no clinical symptoms of sick infants. There are epidemics every 6-10 years. For the first time in 7-10 days after diagnosis, the immunoglobulin (Ig) M antibody comes up and peaks. Back after a few weeks. The IgG antibody is becoming sluggish but life-long positive, supplying chronic infection with immunity. The production of IgM antibodies thus indicates a new infection while IgG antibodies show an established infection and immunity (Lombardo ,2011).

Materials and methods

Sampling

Fifty samples of blood have been taken of patients attending Hilla Teachings Hospital / Babylon / Iraq

Serology Test

About five milliliters of venous blood sample was collected from each patient in the study. samples have been taken simultaneously after separated the serum by centrifugation at 3000 rpm for 15 min, and then kept in eppendorf tubes at -20 ºC until used, from the freezer and tested by the kite maker with IgM ELISA and IgG-ELISA.

Statistical analysis

Statistical analysis was carried out using SPSS version 16, where data were expressed as the Means, Standard Error, One –sample T Test, One–way ANOVA , P value ($P \leq 0.05$) was considered statistically significant.

Results

In various age groups statistically significant was in the *rubella* antibodies seropositivity for positive cases (n=50) (Table 1). There was also a statistically significant in the seropositivity of IgM and IgG .

Table 1. Percentage of *rubella* antibodies seropositivity among the total of positive cases in each age group, positive and negative

mother	**age**	**IgG**		**IgM**	
		+	-	+	-
	20-29	5(22)	17(22)	4(22)	18(22)
	30-39	6(28)	22(28)	0(0)	28(28)
p= value		0.016*		<0.001*	
TOTAL		11	39	4	46

*P= <0.05

Table (2): The differences of age and BMI between both infected and non infected women

Mother	Infected rubella	Non infected	P= value
age	22.22 ± 0.54	23.85 ± 0.55	0.001*
BMI	55.77 ± 2.39	69.39 ± 2.20	0.008*

*P ≤ 0.05; SE: Standard error

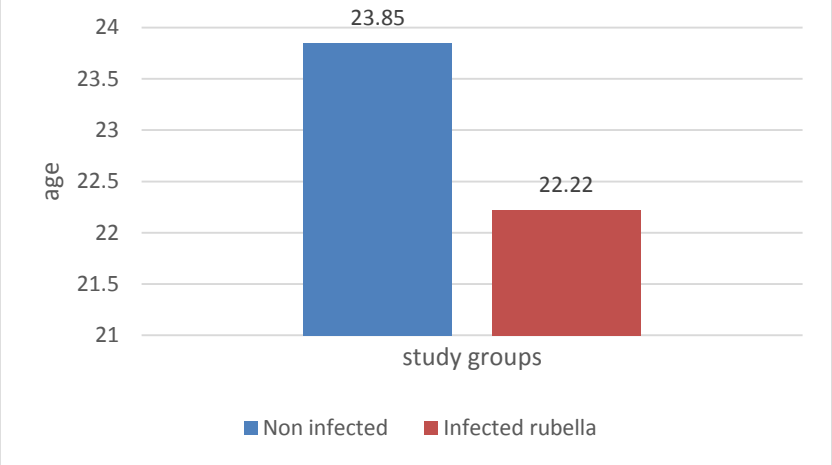

Fig-1- represent study groups according to age

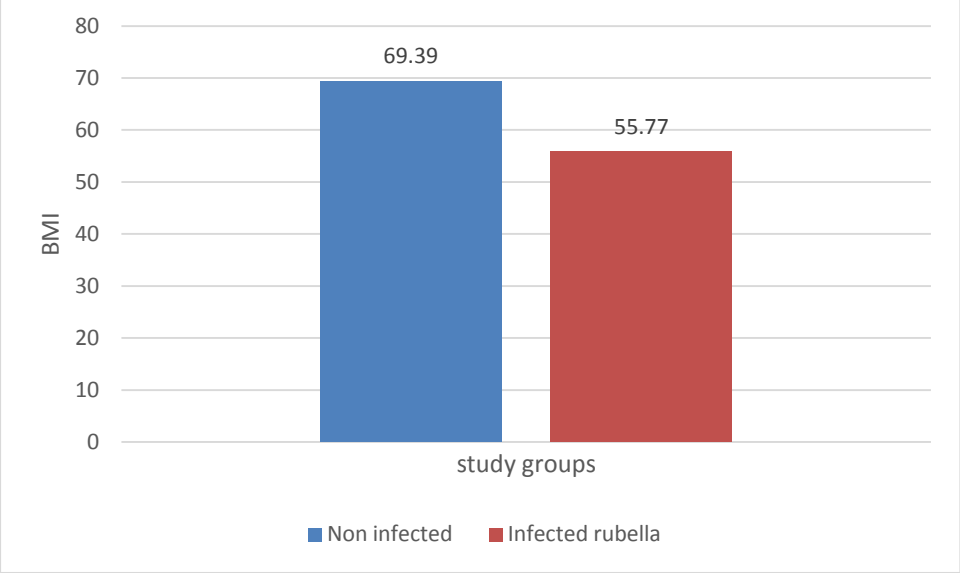

Fig-2- represent study groups according to BMI

Discussion

The most recent rubella in study group is clinical suspicion and a rare IgM rubella, making acute rubella during breastfeeding particularly difficult to diagnose. The rash is not very informative or highly obvious and the bulk of cases are subclinical. Consequently, the primary method of diagnosis for acute rubella in pregnancy is seroconversion and higher IgM titers (Deka etal, 2006).

Rubella IgM and IgG anti imuonoglobulins are effective in monitoring field rubella prevalence (Olajide et al., 2015). Either an IgM or both IgM and IgG antiboards are presently involved in a new rubella infection. Without IgM, the presence of IgG is a Rubella Immunity seromarker (Taneja and Sharma, 2012; Peter, 2015). A failure of IgM and IgG antibiotics suggests rubella resist the patient immunity. The research investigated the studied rubella-specific antibodies for acute/recent infections and rubella viral immunity for pregnant women (IgMs and IgGs).

The public health laboratory recommendations should include Rubella IgG and IgM ,Rubella with severe rash exposure , If the unique IgG of rubles is detected and rubels of IgM are not detected, women cannot display signs of recent primary rubels. When low levels of IgG rubella are found in a pregnant rash patient in the previous 10 days (< 10 iu/ml), even if no IgM specific to rubles is identified. Whether the IgM Rubella specific reactivity is detected, then more rubella may be tested. And within the first 20 weeks of pregnancy can women be diagnosed with rubella on the basis of a positive clear IgM rubella. The findings should be viewed in full clinical and epidemiological detail. Further measures of the power of the IgG (Shah and Bhatnagar, 2010),

(Guideline,2013), is recommended with alternative rubella IgM tests and measurements even where there is evidence of seroconverting.

The present research was conducted with 50 blood samples obtained by pregnant women in HILLA in Iraq. The findings were statistically significant variations between different age groups. A statistically significant variation in seropositives of IgM and IgG were found as well, Similar results were published in recent investigations in Southern Ethiopia (Tamirat et al. in 2017) and in other experiments in Nigeria (Pennap and Egwa in 2016;Jonas et al., 2016).

Finally, it is incredibly challenging to detect acute rubella in the pregnancies since the signs aren't really specific or especially obvious, However, IgM's positive does not mean it has a heavy rubella disease because IgM antibody has a positive error. For example, an improved rubella test test should be done in a sufficient clinic specimen (e.g. nasal swab, urine) or nucleic rubella identification (e.g., throat swab or urine specimen).

Conclusion

Statistically differences in the seropositivity for Rubella IgM and IgG.

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