DOI : 10.35124/bca.2020.20.1.1471

*Biochem. Cell. Arch.* Vol. 20, No. 1, pp. 1471-1477, 2020 | www.connectjournals.com/bca | *ISSN 0972-5075*

# RELATIONSHIP OF RUBELLA VIRUS INFECTIONS WITH SOME IMMUNOLOGICAL PARAMETERS IN WOMEN

**Hashim Abed Abass AL-Anbky[1]*, Mohammed Abdul Daim Saleh[1] and Ali Abd Alhusin[2]**

[1]Department of Biotechnology, College of Science, University of Diyala, Iraq.
[2]Department of Analysis, College of Health Medical Technology, Technology University Baghdad, Iraq.
*e-mail : hashm.abd4321@gmial.com

**(Received 1 August 2019, Revised 30 November 2019, Accepted 11 December 2019)**

**ABSTRACT : This study aims to assess the link among immunological parameters with rubella virus and to determine code diagnosis for rubella virus. Study of the effect of Rubella on body functions (immune system and rheumatism) in Baghdad governorate. In this study, 180 women with a positive result of the rubella virus tested ELISA. The control group was also selected with 50 healthy women with a negative result of the rubella virus by testing the ELISA, collecting venous blood from control individuals and patients for the serum. The study group was divided into married girls (50) and 21%, married (non-pregnant) women were 45 (19%). This work likewise revealed a quantity of unmarried women (91) percentage (39%) and number of control 50percentage (21%). The prevalence of IgG was 82.78%, IgM (2.22%), IgG + IgM. (15.00%) described several vital signs that are associated with the rubella virus. These are IL10, which accounted for 96.11%, IL6, which was 65% low, and RF for positive and negative cases was 10.56% and 89.44%. The result of rubella infection withCD8 that showed a significant in the level (P<0.01), high in CD8 (98.33%) compared with normal value (1.67%) and low values (0%) and in CD4 that showed the normal level of (80.56%) compared to the low value of (19.44%) and the high value was (0%).**

**The results pointed out a substantial growth (p < 0.01) in Rubella virus activity rates, parameters, IL6, IL10, CD4, CD8 and RF. Study concludes that the rubella virus affects as well as, the increase or decrease in the morbidity of the levels of some vital indicators in the patient group, which is likely to affect some members of the body due to the emergence of serious diseases such as inflammation of the liver and lung, disorders of the immune system, anemia and rheumatism.**

***Key words :*** Rubella virus, immunology, serology, IL6, IL10, CD4 and CD8.

## INTRODUCTION

The rubella virus belonging to the Togviridae family, is the only virus of the genus Rubi, an enveloped virus between 60 and 70 nanometers in diameter and containing a single strand of DNA and it encompasses three major polypeptides including - E1, E2 and C (Vynnycky *et al*, 2016). Rubella virus spreads via the respiratory route from one human to another. The virus primarily duplicates in local lymph nodes and nasopharyngeal mucosa. It is transmitted either by direct contact or by droplets contacts fromsnasopharyngealssecretionss with ans incubations periods extending from twelve to twenty-three days, averaging in 14 days (Lanzieri *et al*, 2017 and Fauci *et al*, 2012). It is the principal cause of global birth flaws (Kancherla *et al*, 2014).

It is a vital virus that causes many diseases, a contagious virus that is often call the measles, this virus affects both sexes and different ages, and the incidence of children and adults is mild. This type of postnatal infection is call postnatal infection (Hay-JR *et al*, 2007). Pregnant women, who do not have the IgG antibodies to the rubella virus are at risk of contracting the virus, if infection happens at pregnancy start, specifically throughout the first trimester, it can lead to serious complications, most notably abortion, stillbirth or the birth of children with congenital rubella syndrome (Levinson, 2006).

Rubella infection could outcome a fetal death, miscarriage premature delivery and constellations of severes births defects knowns as Congenital Rubella Syndrome (CRS) when it happens just before conception and throughout the first trimester of pregnancy (Lanzieri *et al*, 2017).

Some biomarkers for determine diagnostic cod to rubella viral, Immune biomarkers that consist: cytokines (IL6, IL10) cytokines are regulatory proteins originating from immune system cells and act as mediators of several functions including differentiation of lymphocytes, stimulating growth, stimulating the development of hematopoietic cells and activating effector cells (Garrote