

## PREVALENCE OF IGG ANTIBODIES AGAINST CYTOMEGALOVIRUS IN ANTENATAL WOMEN IN A TERTIARY CARE HOSPITAL

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### ABSTRACT

*Human cytomegalovirus (CMV) belongs to member of family herpes viridae & sub family beta herpes viridae(8). It is one of the major causes for intrauterine infection. Primary infection is quite asymptomatic(2), but becomes more severe during the course of pregnancy as it may cross the placental barrier and causes congenital malformations in fetus or it may lead to pregnancy loss. The present study has been undertaken to detect & screen the prevalence of IgG antibodies against CMV infection in pregnant women in our hospital. Serum CMV specific IgG was measured by enzyme linked immunosorbent assay (ELISA). The test was done using DSI CMV Elisa kit following the manufacturer's instructions. A Total of 54 serum samples were tested. All the samples were found to be positive.*

**KEYWORDS:** CMV, IGG, ELISA

**Received:** Mar 23, 2017; **Accepted:** Apr 16, 2017; **Published:** Apr 18, 2017; **Paper Id.:** TJPRC:IJMMRJUN20173

### INTRODUCTION

Human cytomegalovirus (CMV) belongs to member of family herpes viridae & sub family beta herpes viridae (8). It is one of the major causes for intrauterine infection Primary infection is quite asymptomatic(2,1) but becomes more severe during the course of pregnancy as it may cross the placental barrier and causes congenital malformations in fetus or it may lead to pregnancy loss(3,11). The seroprevalence of CMV IgG antibodies varies greatly with age and socio-economic factors(4,5,10). Several hospitals from various parts of India have shown that prevalence of CMV infection in pregnant women belonging to low socio-economic status who are exposed to poor hygiene which causes serious complications in the fetus(5). Hence this proves to be more erratic on the clinical grounds as it is asymptomatic(2) and more difficult to define the onset of maternal infections(12). Recently serological assays such as IgG avidity testing has been found useful in detecting the time of onset (6). The present study has been undertaken to detect & screen the prevalence of IgG antibodies against CMV infection in pregnant women who attended the antenatal clinics at Chennai medical college and research centre and to create awareness about this infection to the clinicians and public

## MATERIALS &METHODS

**Type of Study**-A prospective analytical study of seroprevalence

**Place of Study**-Chennai Medical College Hospital and Research Centre, Irungalur, Trichy.

**Period of Study**-June 2015 to August 2015

**Sample Size**-54

**Inclusion Criteria**-Antenatal women attending the Obstetrics and gynecology OPD

**Exclusion Criteria**-Non-pregnant women

Serum CMV specific IgG was measured by enzyme linked immunosorbent assay (ELISA) (7). Blood samples were collected from the subjects with aseptic precautions and was centrifuged after clotting. Sera were separated & stored at 4°C (7). The test was done using DSI CMV Elisa kit following the manufacturer's instructions. This study has been approved by the ethical committee of our institute.

## RESULTS

A Total of 54 serum samples were tested. All the samples were found to be positive.

**Table 1: Age**

Maternal Age (In Years)	FREQUENCY	PERCENTAGE (%)
<19	4	7.4 %
19 - 25	34	62.9 %
26 - 30	12	22.2%
31 - 35	4	7.4%

**Table 2: Gestational Age**

Gestational Age	Frequency	Percentage (%)
1 <sup>st</sup> trimester	8	14.81%
2 <sup>nd</sup> trimester	19	35.19%
3 <sup>rd</sup> trimester	27	50%

**Table 3: Parities**

No of Parities.	Frequency	Percentage (%)
0	33	61.1%
1	15	27.7%
2	3	5.5%
3	3	5.5%

**Table 4: History of Abortions**

History of Abortions	Frequency	Percentage (%)
Yes	7	12.96%
No	47	87.03%

**Table 5: History of Fever**

History of Fever	Frequency	Percentage (%)
Present	13	24.07%
Absent	41	75.92%

## DISCUSSIONS

This is the first study to work on seroprevalence of cmv infection in our institution. About 54 samples were selected for the study and all were found seropositive. From a study done in 2005 on CMV infection in women of child bearing age has shown that higher seropositivity rates have been reported in India and this correlates with our study. (7) Moreover pregnant women belonging to 19 -25 years of age accounts for maximum rates when compared to other ages which is contradictory to other studies (8,7). Most of the studies have shown that transmission rates are higher in third trimester pregnant women which causes severe neurological problems in infants(9). But in our study, third trimester pregnant women show higher seropositive rates and similar records were observed from other study (8). However history of abortions and fever has no influence on CMV seropositivity since our study showed 100% seropositive rates. The major limitation of our study is that the sample size is small. Thus we conclude that seronegative patients must be given passive immunization and antibiotics such as gancyclovir. Regular screening of pregnant women should be done.

## CONCLUSIONS

- CMV is one of the major causes for intrauterine infection.
- There is 100% prevalence of antibodies against CMV in antenatal women in our institution.
- So, routine screening of antenatal women should be done and seronegative patients must be given passive immunization and antibiotics such as gancyclovir

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